THE

AMERICAN FARMER

RURAL REGISTER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

NEW SERIES.] SEPTEMBER, 1872. [VOL. I—No. 9.

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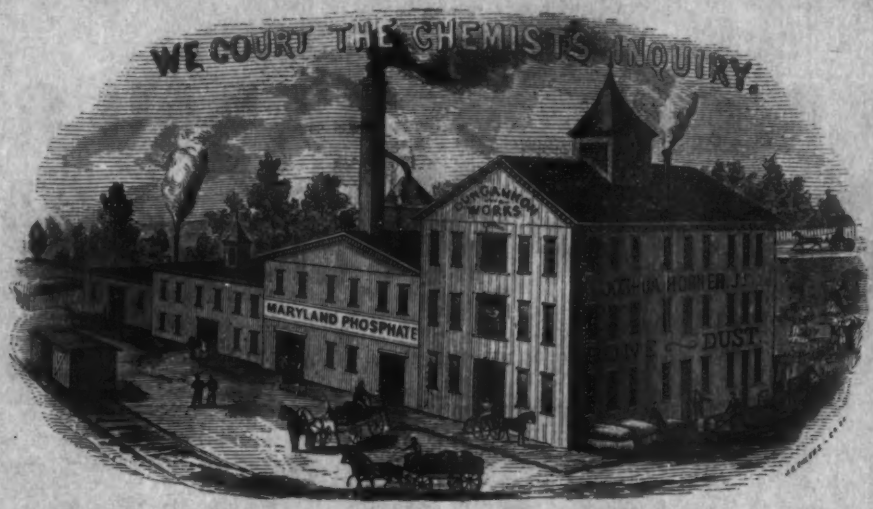

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[ESTABLISHED 1848.]

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The Cultivation of Sumac.

Among the other objects to which we have in former numbers of the *American Farmer* alluded to as worthy the attention of the farmers and planters of the Southern states, in connexion with the diversification of their products, is that of the cultivation of *Sumac*, a plant which until within comparatively a few years past, was unknown to our farmers, although large quantities of it have for years been imported from Europe, for the purposes of our manufacturers, affording as it does the tannin principle so necessary in the beautiful dyes required for the coloring of the finest products of the loom, and in the preparation of the superior qualities of morocco.

Sicily formerly furnished this product to the world in the most abundance, but within the last few years, a revolution has taken place in its production, and it is now being furnished by our Southern states of a quality superior to that grown in Sicily. For the evidence of this we will refer to statements made by responsible parties and published in the Report of the Agricultural Bureau for 1869. It had been supposed that the American species were deficient in tannic acid, but this opinion was founded upon the fact, that there had been a want of care and skill in gathering the leaves, and in their preparation at the manufactories. More care having been used in these respects, since 1867, it is now demonstrated and acknowledged by consumers in our own country, and dealers in Europe, that American Sumac, from the best mills, excels in quality and equals in preparation any in the world. An English importing house, with branches in N. York, Philadelphia and Savannah, in a circular to the trade dated Dec. 31, 1869, calls attention to the very fine Virginia sumac now being received by them, which is pronounced "equal in every respect to the finest Sicily," and proves it by the following analysis, and recommends its use in place of the Sicilian product:—

Tannin,	finest Sicily,	23.65	Virginia,	30.00
Sand,	" "	1.00	"	.50
Vegetable fibre,	"	75.35	"	69.50
		100.00		100.00

The Chemist of our Agricultural Bureau made an analysis of several samples, and reports that the result proves that our Sumac contains both coloring matter and tannin, and is used in dyeing and calico printing as a substitute for nutgalls, for producing shades of gray color, and for dyeing Turkey red; it is also used extensively for tanning the finer kinds of leather. The latter being the most important use, the Chemist directed his attention chiefly to the amount of tannin—and first presents the analysis by Wagner, who had determined the amount of tannin in European Sumac, by the use of cinchona as a test, as follows:—

Sumac, 1st quality..... 16.50 per cent.
" 2d " ..... 13.00 "

He adds that Gauke (in Fresenius' Zeitschrift, 1864,) gives as the average of six analyses of Sumac 13 per ct. of tannin, and thinks this may be looked upon as the average

per centage of the great bulk of Mediterranean, although fine samples of Palermo will yield 22 and 24 per ct. tannin. The following are the result of the samples analyzed by Prof. Antisell, chemist of the Agricultural Bureau:

1. Sample of tannin from J. D. Gordon, Girardstown, West Virginia: Tannin 20.80, Vegetable fibre, &c., 79.20. 2d. From Jacob Ramsburg, Georgetown, D. C.: Tannin 18.25, Veg. fibre, &c., 81.75. 3d. From W. H. Russell, Fredericksburg, Va.: Tannin 23.50, Veg. fibre, &c., 76.50. 4th. From R. T. Knox & Bros., Fredericksburg, Va.: Tannin 28.20, Veg. fibre, &c., 71.80. These results were obtained by the use of Hammer's method of determining tannin, as described by Fresenius, and as the returns show greater richness in tannin in the American samples, which did not all appear of first quality, it proves our capability of competing with the best foreign sources.

A. Macrae, a produce broker of Liverpool, Eng., who has personally examined the Sumac from this country, in his Importers' and Exporters' Circular of Jan. 10, 1870, says:—

"A great revolution is about to be witnessed in this tanning and dyeing material (Sumac.) Supplies have commenced to arrive from Virginia, U. S., the quality of which is the best that has ever reached Great Britain—[allusion is then made to the analysis first given above.] If, therefore, finest Sicily is worth 20*s.* per hundred weight, finest American is of the value of 24*s.*; but it is quite certain that as a rule the American will undersell the Sicilian considerably, although as shown, the quality is 20 per ct. better. In common fairness it must be added, however, that the very *worst* tests of the American are superior to the *best* of the Sicilian; this includes not only the Sumacs of Virginia, but those of Maryland, Tennessee, &c."

One tanner in Wilmington, Del., uses annually from 400 to 500 tons of Sumac, prepared in Fredericksburg, Va. In one respect only is the home production inferior to the foreign; it has not yet been found capable, as generally prepared, of tanning leather white, a quality which the Sicilian Sumac possesses; but the manufacturers in Georgetown, and also practical tanners, have assured the Agricultural Bureau, which has given much careful attention to this comparatively new branch of industry, that even this difficulty has been solved by them, satisfactorily; and that the defect is not in the natural quality of our species of Sumac, but is of a nature that may be overcome in manufacture. We may then very reasonably conclude, that in a very little time, we will be enabled not only to supply the demands of our own country with this article, but at the same time successfully compete in the foreign markets with the Sicilian product. Our enterprise and keen pursuit of objects connected with our business affairs, will ensure such a result, in a very little time, in this article, as it has done in others—more particularly can we point to the success of the cheese manufacture, in which we have been enabled successfully to beat the English in their own markets, they having been forced to send to this country for instructors in the business, to enable them to retain their trade.

In 1864, we *imported* eight million pounds Sumac, valued at a quarter million dollars; in 1868, 13,700,990 lbs., valued at $559,421; and in 1869, about 11 million pounds, valued at $468,362. The whole consumption of Sumac in the U. S. in 1869, aggregated over 10,000 tons of 2240 lbs, and the domestic production was about 5,000 tons, of which 3,500 tons were furnished by Virginia.

Sumac possesses remarkable vitality, and as it flourishes upon the poorest soil, its cultivation may become a profitable branch of agricultural industry—and, in commending it to the attention of our readers, we can say, as we have done on other occasions, in recommending additional objects of cultivation, that it is no untried experiment, but the results have been fully tested, and its production found entirely feasible, and remunerative.

Mode of Cultivation.—In Sicily, the shrub is cut off entire a little above the ground, after one year's growth, and the leaves threshed off when sufficiently dry. Shoots put forth from the roots about the stump, furnishing leaves for a succeeding harvest. The shrub is propagated by planting sections of the root, usually in rows far enough apart to allow of cultivation with the plow or hoe. It may be grown from seed, which should be soaked well before planting, in order to induce a more rapid germination; and whether roots or seeds are planted, it should be done previous to the rainy season of the year, to give the plants the benefit of sufficient moisture. In the U. S., the leaves of the Sumac are gathered by stripping or beating them from the shrub, at any time from the middle of July to the appearance of autumn frosts

—the leaves are separated from the branches and twigs, and are delivered at the mills in the fall, the average price paid for them being $1.75 per 100 lbs. Mills have been introduced for grinding Sumac, which will be found described in the Agricultural Report for 1869, page 232, with the drawings, as patented by Mr. Chase, of Alexandria, Va., from whom doubtless any additional information can be derived by those who contemplate entering into the cultivation or manufacture.

A correspondent at Mobile, of the Rural Alabamian, who spent several years in Sicily, where he had ample opportunities of learning all about this plant, thinks that the Southern states can, and eventually will raise Sumac enough to supply the world—the culture is so simple, that even with our bungling arrangements, there is no excuse for our not going into it.

"In Sicily (he says) they plant the roots or small plants, as we do corn; hills about three feet apart, rows about four, so that the plough or harrow can save the hard labor of the hoe. They hoe it two or three times before the rains, finish in May, and gather it in July and August. The leaves are the only parts made use of. After being separated from the twigs by threshing, the leaves are ground to the state of fineness in which you see it in the U. S., being passed through sieves of sufficient fineness, and put into bags of 160 lbs. each. The proper season for planting the roots or plants is in November, Dec. and Jan. When the season is rainy, the plants take root better. The root or stump is cut off 4 to 6 inches above ground; the scions or sprouts spring up 4 to 6 out of each root; and when at maturity, which in Sicily is in July or August, they are all cut off at the stump, and laid in small handfulls (not spread out much, as the sun will turn the leaves yellow) to dry—say for a day or two—great care being taken that no rain falls on them."

On the Use of Chemical Manures.

At no former period has the subject of "*Manures*" been so prominent, with scientific as well as intelligent practical men, as at the present time—and never were their researches more necessary than now, and nowhere else perhaps, than in this country. The foreign publications abound in discussions by the most learned men of Europe upon the subject, and the press of this country report the proceedings of hundreds of Clubs and Agricultural Societies, with whom it forms the main staple of their deliberations.

Among the many works which have lately been issued upon the subject, we have before us one of French origin, now translated and published in this country. From the publishers, Hy. Carey Baird, Philadelphia, we have received a copy, the title of which is—

"*The School of Chemical Manures;* or Elementary Principles in the use of Fertilizing Agents. From the French of *M. Geo. Ville*, by A. A. Feset, Chemist and Engineer."

We look upon this publication as of decided value in the elucidation of sundry questions which have for years agitated the mind of the agricultural public as well as engaged the attention of the most eminent agricultural chemists of the world—and the translator, in his preface, comes to the conclusion that "the opposite schools of nitrogenized manures *versus* mineral ones, and conversely," may be agreed upon the common platform, that "every plant needs nitrogen as well as mineral substances for its food." This result, as well as the rational manner of determining the natural fertility of the soil and the dominant substances for the food of plants, it is claimed have been demonstrated by Prof. Geo. Ville, after thirty years of comparative experiments, conducted in the field and in the laboratory, and checking each other. Moreover, (it is added) at the present time, several hundred farmers in Europe and in the colonies follow the advice of the learned professor of vegetable physiology, and by their correspondence confirm the truth of his teachings.

The whole subject may be compressed into a very small compass, according to M. Ville —that

"Chemical manures do not mean strange and unknown substances, new to the farmer; they simply include *phosphorus*, *lime*, *potassa* and *nitrogen*, that is to say, the useful substances found in any serviceable manure, compost, &c., from time immemorial. They are in a condensed form, nearly constant in composition, and may be readily mixed in various proportions to suit the nature of the desired crop, or the degree of the natural fertility of the soil. Moreover, with them the farmer will be less exposed to frauds than when he buys manures already mixed, which, too often, are but nondescript compounds.

"Manuring with chemicals alone has been proved by Prof. Ville and his followers to be profitable; nevertheless, other manures and compounds may be used in connexion with them, but their usefulness as plant food will be in the ratio of the phosphorus, lime, potassa and nitrogen which they contain in the *soluble or available state.*

"When once the farmer has arrived at a

knowledge of the natural fertility of his farm by the aid of experimental fields, as explained in this work, he will be able to compound his manures for each desired crop, without expending money for what is already in the soil, or omitting what is wanting."

The Professor in this work affirms that there is no difference between a soil naturally barren, and one exhausted by culture—both will produce poor crops, because they are equally wanting in those substances without which plants cannot thrive. A naturally barren soil has never possessed these substances, and the exhausted one has lost them in the crops grown upon it—and the only resource is to *manure*. For this purpose the use is generally made of farm-yard manure, which, it is contended, acts by its *nitrogenized matter, phosphoric acid, potassa and lime*, which are the indispensable agents for keeping up the fertility of soils, and obtaining all kinds of crops. Farm-yard manure, in addition to these substances, contains at least ten more; all of these, however, are found by the plants in the earth and in the air—barren or exhausted soils are therefore wanting in nitrogenized matter, phosphoric acid, potassa and lime, and with these applied, it is always possible to obtain fine crops.

"It is not necessary that these four substances shall be in the farm-yard manure, for their application in the form of chemical products possesses the same properties, and the chemical manure is more powerful than that of the farm-yard. This will be easily understood, since in the farm-yard manure the four substances are mixed with foreign matters which hinder their action. On the other hand, the chemical manure is composed only of substances which act directly, and the absorption of which by the plants is rapid and certain."

Prof. Ville therefore calls a combination of these four substances a "*complete manure*," and says that there is the same difference between the complete manure exclusively formed of chemical products, and the farm-yard manure, as there is between a metal and its ore, or pure quinine and the bark from which it is extracted. The ore contains the metal mixed with earthy matters; and the cinchona bark holds quinine amid a quantity of worthless ligneous substances—"*the chemical manure is a manure without useless materials.*" From these hints the reader can form an idea of the character of this work, and the conclusion at which the author has arrived.

We have ever believed that ammonia, phosphate of lime, potash and lime, were the substances required for an infertile soil, and that these, combined with others producing humus, or mould, such as barn-yard manure, composts formed of anything and everything, vegetable or animal, that ever had life, will create a fertile soil, but Prof. V., if we have read him aright, seems to imagine that the four substances alone will accomplish all that is necessary, independent of the barn-yard or other similar manure.

We reproduce an experiment given by the author: He says, that in order to obtain fine crops, it is absolutely necessary that the four substances indicated should be in the soil, and that if *one* of them is absent, notwithstanding the presence of the other three, the vegetation remains languid, and the crops poor. In the experimental fields of Vincennes, for instance, a soil of inferior quality was chosen, and cultivated, for several years, without any manure, until the crops had dwindled to next to nothing. Then the ground was subdivided into *six* parcels, each equal to an are (about 119 square yards) and contiguous to each other. The 1st parcel received *no manure* whatever, and there was scarcely any crop. *Potassa* was added to the 2d without better results. The 3d parcel received *phosphate of lime*, and the crops were equally poor. The same results were observed with the 4th and 5th parcels, one of which had received *lime*, and the other *nitrogenized matter*. The 6th was provided with the mixture of *nitrogenized matter, phosphate of lime, potassa* and *lime*, that is, the *complete manure*, resulting in a *splendid growth*, and a crop superior in quality and quantity. But that was not all: a 7th parcel of the same ground was manured with *phosphate of lime, potassa* and *lime*, that is to say, the *complete manure* without the nitrogenized substance, and the results were as poor as if only one of the three substances had been employed. The superiority of the complete manure proves that its results are essentially due to the collective action of the four associated substances. In terminating this chapter, says Prof. Ville, "we would say that by the *mineral manure* we mean the reunion of *phosphate of lime, potassa* and *lime*, that is, the complete manure less the nitrogenized matter."

In various tables, the respective quantities for each crop, according to its requirements by analysis, are given, to which we shall here-

after have occasion to refer—in the meantime we can with much confidence recommend the book to the intelligent searchers after truth in the domain of agriculture.

PRINCIPLES OF BREEDING.

The "Transactions of the N. Y. State Agricultural Society" for 1870, contain among many other valuable papers, a lecture on the "*Principles of Breeding Domestic Animals*," by James Law, M. R. V. C., Professor of Veterinary Science in Cornell University. This lecture is very justly made to take the leading position in the volume, and it is truly exhaustive of the subject upon which it treats. We wish we could transfer the whole of it to our columns, but the space for the purpose cannot be supplied. The lecture is accompanied with plates, highly interesting and favorable to the elucidation of the subject treated, and making that plain to the unscientific reader, which without them could not be so readily comprehended. In allusion to the first presentation of the essence of life, so to speak, the Professor thus shows the wonderful ways of Providence in the propagation of the species:—

"It is one of the marvels of creation that a microscopic particle of *protoplasm*, which does not differ materially to appearance in the human being, the horse, the ram, nor the rat, should yet have the power of assimilating nutritive pabulum and building up a highly complex organism, which shall resemble its parents even to the color and turn of a hair. That a particle of matter perceptible only by the higher powers of the microscope, should contain the different elements of living substance, which determine the formation of bone, sinew, gristle, muscle, brain, nerve, horn and hair, and so disposed that they build up these and other elements into the complex but beautifully harmonious bodily frame, is a marvel of power and order, which strikes the thoughtful mind with awe, as if brought into contact with the work of creation itself. We feel in the presence of such facts, that our vision is too limited to explain the Almighty's mode of working; but, on the other hand, we can rely on the constancy and inviolability of these laws, and though ignorant of their cause, avail of them in improving our stock and benefitting humanity."

We intend in future numbers to give such portions of the lecture as may be deemed of most interest to our readers—but for the present must be content with the following extract, which shows the effects of disease and accident, and imagination, upon breeding animals:—

"*Disease and Accident.*—That many diseases are hereditary is notorious to all. Those with a constitutional taint, are above all transmissible. Thus rheumatism, consumption, scrofula and cancer run in certain families, human and brute. In the horse we have the recurring inflammation of the eyes; certain affections of bones and joints, from bad conformation or faulty nutrition; heaves, with a want of chest capacity; and roaring from badly set on head and narrowness between the branches of the lower jaw. But independently of constitutional taint or bad conformation, changes of structure caused by accident or disease, are often transmitted. This is more likely to be the case if the disease exists during gestation, or if it persists in the seat whence a part has been removed. A Clydesdale mare at Spott, Scotland, had her two fore feet so small that she could do little work, but was thought good enough for breeding. Of her four foals, two had feet so small and weak that they would scarcely hold their shoes, and went constantly lame. The other two had feet apparently well formed, but were utterly ruined at an early age by founder. A mare of Mr. S. Scott's, Dryden, N. J., suffered during pregnancy from a severe inflammation of the left eye, supposed to have been caused by a burdock in the forelock. She produced a filly with the left eye undeveloped, and represented only by a small round, black object. After foaling, the mare recovered, and has since borne several colts with sound eyes. The filly, now nine years old, has also had several foals, all with perfect vision.

"Here the suffering during gestation seems to have determined the loss of the organ, and the same cause often leads to the perpetuation of splints, spavins, ringbones, sidebones, navicular disease, and other causes of lameness in the offspring. A similar instance is presented in the cow which had her horn knocked off and a severe suppuration in the place, and which had afterward three calves hornless on the same side of the head.

"But the simple absence of an organ, without persisting disease, is sometimes perpetuated. Cats, dogs and even horses, which have lost their tails by accident, have afterward borne young devoid of this useful appendix.

"On the whole, it is better never to breed from an animal imperfect from disease or accident; but this caution is still more imperative if the disease persists at the time of conception, and above all, if associated with a constitutional taint. If consumption, scrofula, rheumatism, or other similar disease, exists in the family in a strongly marked form, no member of it ought to be used for breeding, no matter how sound he may appear to be personally.

"*Imagination.*—Strong mental impressions experienced by the pregnant female are often reproduced in the offspring. Jacob was en-

riched, at the expense of his unjust father-in-law, by the operation of this law, divinely strengthened, it may be, by the overruling hand of a just God. An instance very analagous happened in the Sittyton herd of Short-horns.

"These were all roan and red, and never produced more than one, or at most two, white calves in a season, and these were always removed from the herd; but in 1849 the steading was whitewashed to ward off the approaching pleuro-pneumonia, and in that year twelve white calves were produced. In the same year whitewashing had a similar effect in a Yorkshire herd of Short-horns; Mr. George Barnstaple, N. H., had a native red and white cow, sired by a native bull of the same colors, but which was frightened about the same time by a black and white Dutch bull, the only animal of the kind in the locality, and had in due time a black and white calf. Mr. P. M. Rossiter, Milford, N. H., had a cow die in calving, which was skinned where she lay, in full view of another pregnant cow. This last cow, in due time, had a calf, without hoofs, or skin on the hock joints, and with skinless lines inside the limbs, where usually slit up by the butcher in skinning.

"In many cases the close association or intimacy of the pregnant female with animals having peculiar traits, has led to the reproduction of these traits in the offspring. Dr. Trail, Monymusk, Aberdeen, reports that a mare worked, stabled and grazed with a black gelding having white legs and face, straight hocks and hoofs set on long pasterns at right angles almost, covered by a stallion like herself (bay, with black legs and white star in the forehead); this mare had a foal exactly resembling the gelding in color and shape, and above all, in the distortion of the hind legs.

"Mr. Mustard, Forfar, had a pure black polled Angus cow grazing with a horned white ox, with black spots, for some time before being taken to a pure Angus bull. Her calf was black and white and grew horns.—In 1848 Mr. McCombie, Tillyfour, sent one of his polled Angus cows to graze on a bare pasture with a large yellow and white spotted ox, whose colors her subsequent calf by a pure Angus bull, exactly reproduced. Col. Bryant, Fairhaven, Mass., reports that a number of black cows, sent to an island in Buzzard Bay to avoid evil influences, had by accident a dun steer introduced among them, and, much to his disappointment, the owner had a herd of calves, without exception, of a dun color. Some breeders of Angus cattle are so sensible of this danger, that they will admit no animal to their farms, not even poultry, unless they possess the orthodox black color.

"A few years ago a fine mare of Mr. McGraw's, Ithaca, N. Y., served by a horse of equally good parts, was allowed to graze during pregnancy in a park adjoining one occupied by a mule, and the foal presented unmistakable mulish traits in head, ears, neck and thighs. Other instances of the same kind might be mentioned, but let these suffice to illustrate how carefully we should guard improved races against ignoble or degrading associations, and very striking or novel conditions of surrounding things."

Our Agricultural Calendar.

SEPTEMBER—FARM WORK.

Wheat.—As many farmers will be getting in their crop before our paper will again reach them, we will make some additional remarks upon the cultivation of this cereal to those presented in our last.

Seed.—The Department of Agriculture has been engaged during the past month in disseminating superior varieties of Fall Wheat to all the States and Territories adapted to its growth—a large distribution of Rye will soon follow; those wishing to get some of the packages should apply forthwith. The Commissioner in his July report of the crops, says that several kinds of Wheat heretofore sent out by the Department are proving desirable acquisitions. "The Ushak variety has been sold in Virginia for $5 per quart. The Touzelle, a French variety, is claimed to be 20 per cent. better than any other, in Culpeper, Virginia.. The Fultz Wheat is a very promising variety, though it has had but one year's distribution. The Tappahannock, first distributed nearly ten years ago, has been highly esteemed in various sections of the country, but appears to be declining at some points, as an old variety." In Knox Co., Tennessee, however, the report shows that from 27 acres, 690 bushels of the Tappahannock (near 26 bushels to the acre) were threshed out. In Maryland, it is stated that the Fultz Wheat is a great acquisition. In Virginia, the same variety "promises finely" and "is a great acquisition." The Fultz Wheat promises finely, and the Ushak has also created a sensation among farmers by the size and beauty of the heads. In Madison, Va., and other counties, the Fultz Wheat is also highly spoken of.—The same is the case in South Carolina, West Virginia and Georgia; in the latter State, in Catoosa Co., the Fultz Wheat did remarkably well. Two quarts of seed from the Department produced 1½ bushels, though sown on the poorest land on the farm. Nearly every head came out the same day, and the whole ripened with singular uniformity. It may, probably, on the best land, be made to yield from 25 to 40 bushels per acre. In Lumpkin Co. the Ushak and Fultz Wheat fully answer expectations; heads of Fultz very heavy. In Franklin, one quart of Fultz Wheat from the Department yielded 70 quarts. In Fannin, Winter Wheat fine. Fultz Wheat from the Department did well; a quart of seed sown

broadcast yielded a bushel of grain. In Tennessee and Kentucky, also, the several varieties alluded to above are equally highly spoken of. These facts we gather from the Report alluded to; there are other varieties also favorably alluded to, such as the Boughton, the Red Chaff, the Walker, &c. The Diehl is a white Wheat, highly prized in some localities.

In the locations named above, where these varieties of Wheat can be had at moderate prices, it would be well for those who cultivate this cereal to try them; we hardly think it necessary, however, to discourage the purchase of seed at any such price as is indicated above. In this connexion, we would add the advice of Judge Watts, the present head of the Agricultural Bureau, a life-long farmer of Pennsylvania, who says that "the seed should be, selected with a degree of care which will insure the separation of the indifferent and the good. And this is a point of the utmost importance—far greater than is usually attributed to it. No matter what the seed may be there will be found good, bad and indifferent among it, and that these should be separated is as fixed a principle as that better seed will produce a better plant, and that a better plant will produce better Cotton, Tobacco, Wheat or Corn." The seed should be gotten out by the flail, as the threshing machine damages much of the grain, and renders it unfit to sow. The philosophy of this advice must be self-evident to every one.

Ploughing.—In our remarks last month, we give special reference to former numbers of the *Farmer*, where we dilated upon the advantages of deep ploughing and a proper preparation of the ground—we are borne out, if we wanted any additional proof of the correctness of our views therein expressed, by Judge Watts, in his Report. "It is not enough," says the Commissioner, "that the surface be loosened and seed be committed to the earth to secure an adequate yield. The ground must be well and deeply ploughed and ploughed again; it must be harrowed and harrowed again, [and he might have added, rolled,] until it is brought nearly to the state of the seed-bed of a garden before the seed is committed to it." He also gives the admonition to avoid ploughing where the land is wet, "the earth (he remarks) may be said to be a set of mouths and lungs which feed and breathe; to plough it when wet shuts up its capacity to feed and breathe; in other words, it smears its surface so as to make it impervious to light, air and heat, for the want of which it dies; and a death, too, from which resurrection is extremely difficult. This same consequence is the result of pasturing cattle upon lands whose surface has been made wet by rain or otherwise; it is worked into a mortar incapable of producing fruit."

Seeding.—In our last, we threw out some suggestions as to the preparation of the seed, and the manner of sowing, to which we would refer the reader—and will add some further hints upon the subject, which may be of interest in this connexion. There is a great difference of opinion among farmers as to the quantity of seed wheat per acre that it is advisable to sow—some agricultural writers, among whom perhaps the famous Mr. Mechi, of England, has been the most conspicuous, have advocated the use of a much smaller quantity than is usually sown of seed wheat. Some have contended that one peck evenly distributed and carefully covered was as much as was needed. Prof. W. W. Daniels, of the University of Wisconsin Experimental Farm, furnished the *Western Farmer* a statement of experiments made on several crops raised on that farm, as well as experiments relating to feeding stock, &c. Among these experiments was one to test the comparative values of the different amounts of seed to the acre. Six plats, *one-fourth of an acre each*, were sown to the Mammoth variety of Spring Wheat, April 4th. The plats were all adjacent, equally fertile, and the cultivation the same on all. The grain was harvested July 22 and 24. The following table gives the result of this experiment:

Bushels of seed to the acre.	Weight of straw and grain.	Weight of grain.	Yield per acre.	Weight per bushel.	Per cent. of grain to weight of straw and grain.	One pound of seed yields.
	Lbs.	*Lbs.*	*Bush.*	*Lbs.*		*Lbs.*
¾	820	263	17.53	60.25	32	23.11
1	899	297½	19 83	60.6	33	19.59
1¼	1.146	332⅔	22.18	60	29	17.53
1½	1,340	396½	26 16	60 36	29	17.4
1¾	1,330	375⅔	24.75	60	28	14.17
2	1.412	455¼	30⅓	60⅓	32	14.68

The variation in the yield of plat five is attributed by Prof. Daniels to the fact that it was in a more exposed situation, and more badly laid by the wind.

We will here remark that the result thus given would seem to be reasonable, for there should be enough seed sown to cover the ground to the exclusion of weeds, and to make allowance for the damage by the fly and by winter-killing.

Moistening the seed with a solution of bluestone—¼ lb. to a quart of water for a bushel of seed—is generally believed to be entirely efficacious as a preventive of smut, but in another column one of our correspondents reports a contrary experience.

Rye.—This crop is generally sown in August, but can with safety be put in by the middle of September; the earlier, however, the better in this locality. For further particulars in regard to the culture of this crop, the reader is referred to our last.

Water Furrows.—After seeding the grain crops, the field should be water-furrowed—run the furrows so that the water may be conveyed away; to permit water to lay on the fields through the winter and early spring

will be found injurious to the grain crops; care should be observed to clean out the water-furrows through the winter, so that the water will have a free flow. Attention to this is very important to the welfare of the cereals.

Meadows.—These, wherever they have been set two or three years, should be top-dressed with a mixture of 2 bushels of bone-dust or good superphosphate, 4 bushels ashes and a bushel of salt per acre; the compost thus made should be harrowed in and rolled. If the grass appears to be giving out on an old meadow, it may be greatly improved in its yield by harrowing it well, then sow on each acre the above top-dressing, and again harrow; then sow more grass seed, the kinds and quantities heretofore recommended, and finish by rolling in the seed. This month is the time for this operation, and if carefully done, the crop of grass will be increased another year to double the quantity which you would otherwise cut from the same meadow. An excellent farmer, who practices a mixed husbandry, says that there is no kind of field crop that he cultivates that seems so grateful for a little manure as the grass crop, and none that yields him a better return for it than that does—he uses annually more than half his manures as a top-dressing for his mowing fields, and thinks it pays.

Mixtures for Stock.—Stock should be supplied with an ounce for each head, two or three times a week, of a mixture of equal parts of mild oyster shell lime, with salt and ashes finely sifted—this will be found excellent for the health and improvement in the condition of all kinds of stock at this season—and *Sheep* should be regularly salted as often. Rock salt should be placed in a trough where all kinds of animals can have access to it—no doubt many diseases are engendered by sheep and cattle having a supply of salt withheld from them.

Orchards.—There can be no apology for owners of landed estates failing to put out fruit trees and vines and shrubbery. Every fruit tree planted adds twenty times its cost, if not more, to the value of the farm—if in any event the owner or his heirs have reason to sell the same, this truth will then be fully realized. Everybody is fond of fruit, and the man of family who neglects to provide it for his household, is not doing his whole duty to them—any observant or intelligent man, contemplating settling on an estate, will make it one of the first considerations with him before purchasing, whether or not it has on it an orchard of fruit—he has no notion of waiting several years for so healthful and toothsome an addition to his home comforts, and doubtless many a sale has been defeated by the lack of this luxury—or rather, this necessary portion of food. Beside these home considerations, fruit is now becoming in many quarters the largest source of profit to the owners of plantations, and if the finer qualities are produced and attention is paid to the proper varieties and the times and the seasons for their ripening and gathering, there can be no more profitable crop raised than fruit. And here let us impress upon those who intend putting out fruit trees this fall, to forward their orders direct to nurserymen well known or of established reputation, from whom they can readily obtain catalogues from which to make a selection; let them avoid *tree pedlers*, for, as a general rule, they are not reliable—in the language of one who is in the very heart of the nursery region, "they are travelling all over the country, representing themselves as from such and such reliable nursery, and by this means they very often succeed in taking a great many orders from the unsuspecting—and they then go to the different nurserymen and buy sufficient refuse stock to fill their orders, leaving their poor duped purchaser to wait year after year for his trees to come into bearing, but, alas, he waits in vain. And if the trees ever do come into bearing, instead of the fine beautiful fruit he has seen and fully expects to get, he will only have some knotty, worm-eaten balls of green vegetable matter."

We hope our hint given above, to purchase alone from responsible nurseries will, for the reasons assigned, be availed of this fall. We have ever believed that the Fall is the best season for planting out trees, except perhaps the peach and apricot, as they are more likely to have a firm setting and be less affected by the cold winter, than by the heats of summer when planted in the spring.

Manures.—Thomas, in his Fruit Culturist, considers that "in ordinary cases, it will be found that stable manure will give the most uniform and satisfactory results—more especially if it is made the basis of a compost with peat, muck, or turf from old pastures, with a tenth or fifteenth of leached ashes, and half that of bone-dust. If these are thoroughly mixed with the soil down to a depth of a foot or more, by subsoiling, trench ploughing, and cross-ploughing, in connexion with repeated harrowings, fine trees and excellent fruit may be confidently expected even on soils of naturally moderate fertility." A well drained soil, it is added, is of course all important, for all manure is nearly lost on land kept soaked with water. Old trees would be much improved by laying drains 2½ to 3 feet deep, midway between the rows. We have before published the following formula for a compost for an acre, for an orchard, which will be found to meet the requirements to a great extent of the recommendations of Mr. Thomas, as above given:

10 double horse cart loads of marsh, river or creek mud;

5 double horse cart loads of stable or barn-yard manure;

4 bushels bone dust, 1 do. of plaster, and 2 do. salt.

Mix well these ingredients together, and leave in bulk three weeks; then shovel it over, haul it on the ground, spread it evenly, and plough it in 8 inches deep; let the subsoil plough follow the other plough to the depth of 6 inches or more; this done, harrow and cross-harrow and roll, when your land will be fit to receive the trees.

Setting out the Trees.—This is an important part of the work, the improper doing of which often causes the loss of valuable trees, after much expense and tronble have been expended on them—we will be excused therefore for giving more attention to the subject than it would seem necessary for so apparently simple an operation. The trees should be planted, if *apples*, 40 feet apart each way; *pears*, large growing standard varieties, on pear stocks, 20 to 25 feet—dwarf standards on quince, (with stems pruned up two or three feet, the heads with natural growth, or slightly thinned by pruning but once a year, for orchard culture,) 12 feet; pyramids on pear stocks, 12 to 15 feet; on quince 10 or 12 feet; pears on quince should be so placed as to admit of high or enriching cultivation—for *peaches*, allow 20 feet, if it is intended for them to spread out and take their natural course—but if shortened-in annually, as they should be, or even triennially, by cutting back 3 year branches, they may occupy only 12 or 15 feet; if budded on the plum, which reduces their growth a little, they may be cut back so as to require a space of only 8 or 9 feet. An acre will contain 27 trees if set 40 ft. apart; 40 trees if 33 ft. apart; 69 if 25 ft.; 108 if 20 ft.; 193 if 15 ft.; 302 if 12 ft.; 435 if 10 ft.; 680 if 8 ft.; 1208 if 6 ft., and 2720 if 4 ft. apart—this calculation will answer for the large as well as the smaller varieties of fruit. Dig the holes for apples 40 feet apart each way, 6 feet square and 2 ft. deep, place the surface soil on one side and the subsoil on the other; mix the surface soil with an equal part of the above mixture, with this fill up the hole to the proper depth to receive the tree; examine the roots, and cut off any parts that might have been broken; smoothly insert the tree so as to stand in the hole the same depth it did in the nursery. Let one man hold the tree up straight while the other spreads the roots carefully out; next drive down a stake to support the tree; then fill up the hole with the mixture of compost and surface soil evenly with the ground, giving to the surface a shallow, basin-like form; as the earth is being put in, it should be pressed down with the foot by the planter, who must be cautious not to rend the roots in doing so. The tree planted, confine it to the stake by a straw band, so as to prevent it from shaking and chafing. Then pour a bucket of water *gradually* into the basin formed around the tree.

Making Manure.—Get to work as soon as you can to gather in all the rough materials for the forming of composts—such as marsh and river mud, ditch scrapings, or earth from head lands, swamp muck, peat, &c.; these should be spread evenly, making the centre deeper than the sides, so as to retain all the valuable portions, and preventing loss by running off; this should be done to the depth of a foot, when plaster may be strewn over the mass to preserve the ammonia from flying off—in three or four weeks haul in as much more, depositing the same on the former deposits, and repeat the dose of plaster. In six weeks or two months thereafter, all these rough materials and the voidings of the stock, which should be now put up a-nights, should be mixed together, thrown into bulk at some convenient spot, the sides being sown with plaster and patted down hard with the shovels. These dep sits will furnish you a valuable manure for the Fall, and when they are hauled out, prepare for a winter campaign in the same direction; haul in more of the rough materials, so as to cover the yard a foot or two deep, giving the yards a basin-like form, and rolling; this second deposit, if mixed with the droppings of the cattle and hogs next spring will be fully as fertile as so much barn-yard manure—strew plaster over the yards occasionally. Mr. Royal Smith, an experienced farmer, in a letter to the Germantown Telegraph, gives it as his present belief that "all manures, as far as possible, should be dropped and composted under some kind of shelter, to protect them, and keep their strength from being frittered away and wasted by the action of the sun, the winds and the storms, that in this way the manure heap may not only be greatly enlarged or doubled, but the quality, strength and richness of the heap may be also greatly improved as food to feed the growing crops of the field. There is one other resource for manures that is cheap and available to most farmers. I allude to such substances as lime, ashes, salt, nitre, plaster, copperas, ground bones, &c. I believe that any farmer of ordinary intelligence, on a small scale at first perhaps by way of experiment, may become his own chemist, and by mingling in proper quantities a part or all of the above substances, according to the wants of the soil and particular crop to be grown may require, may so chemicalize his compost heaps as to double at least their strength and efficiency as food for his cultivated crops. Lime and ashes decompose the woody parts of manure and make it fine and friable, liberate the gases for the absorbents to take up and promote the heating process; on the contrary, salt and plaster allay fermentation and fix the gases, changing them to valuable salts and thereby preventing them from flying away in the air. Nitre and copperas are rich in plant food and ground bones abound in the phosphate of lime. From all the above-mentioned sources the intelligent farmer may gather plant food, cheaply and in abundance, annually to supply the wants of his farm, to more than repair the waste in the soil caused by

his growing crops, and making it yearly more productive."

Absorbents should, as far as possible, be used for saving the liquids from the stock; swamp muck is recommended for this purpose, more especially when the manure is to be applied to sandy loam lands. There should be, as far as possible, such fixtures as will lead off the urine to these absorbents, as there is more ammonia in such than in the solid evacuations of cattle. Saw-dust has been recommended for bedding cattle to answer this purpose, but it is questionable whether there is not danger in its use, the urine causing a chemical change in it injurious to the stock.

Original Correspondence.

WHEAT.

"BREAD IS THE STAFF OF LIFE."

"By the sweat of thy brow shalt thou eat bread." There is no good living without good bread. Wheat bread is used almost exclusively by a very large part of the human family. To supply bread requires care, toil, thought, perseverance, judgment on the part of the farmer.

It is easier to raise forty bushels of corn than twenty bushels of wheat per acre. Corn grows best in light, rich, sandy soils. Wheat requires a compact, heavy clay. Whenever we plough for either crop, we should turn up a part of the subsoil. Our subsoil is rich in potash. Isaac Motter, one of our farmers, several years ago made thirteen hundred bushels of wheat on forty acres of land. His fields were ploughed say 8 to 9 inches deep, and subsoiled four or five inches deeper. He is very careful and attentive to his manure bank.

Twenty, thirty, forty bushels of wheat per acre cannot be made on thin, poor, exhausted, badly managed fields. If the farmer wishes to make good crops he must make his land rich, put it in good order, and sow in proper time.

Clover is the crop to prepare the land for wheat. It has been asserted that there are two to three tons of clover roots per acre on a well set field.

Lime gives life and energy to all soils and to all manures. Ours is a limestone region—the limestone projects above the surface at many points. But lime is employed here as a fertilizer, and is becoming more and more popular.

Barn-yard manure gives the wheat a good start, protects it from the winter's frost, and hastens the process of ripening.

Liebig says, "where there is no phosphoric acid in soils wheat cannot be made." The tendency of repeated farming is to exhaust the supply in soils of phosphates and other fertilizers. Good farming consists in increasing the fertility of the soil by returning these constituents. The cheapest and most reliable application of phosphates is ground bones.—In wheat regions there should be bone mills, where bones could be ground for agricultural purposes. We have been sending bones to Europe for many years. The English farmers think they cannot raise turnips and wheat without bones.

Plough for wheat early after harvest. Apply manure after ploughing, and harrow again and again if necessary. I harrow twice always. Partially rotted manure, straw or litter applied after ploughing, screens the wheat plants from the keen, bleak winds of winter.

Wheat sown before the 15th of September will escape the rust, but may be destroyed by the "fly." Wheat sown after the 15th of October may be, and often is, destroyed by rust. Fly and rust are great obstacles in the path of the wheat grower.

The "Hagerstown drill" is a favorite implement in our county. It saves seed and does the work of three or four men. In rich land one bushel and a peck of seed is sown to the acre; in ordinary land one and a half bushels; in poor land two bushels. Formerly, when we ploughed or harrowed in, two bushels of seed were applied to the acre.

Land to be sown in wheat ought to be in nice order, free from clods and stones.

Our farmers have been using lately a home-made phosphate:

Ground Bones	500 pounds.
Oil Vitriol, sp. gr. 66°...	160 pounds.
Plaster.	2 bushels.
Salt..	2 bushels.
Sulphate Soda.	100 pounds.
Rich Earth..	8 bushels.
	—— 1 ton.

Directions for making home-made Phosphate.—Moisten a box 3 by 6 feet with water. Put in 125 lbs. ground bone and 25 lbs. sulphate soda; mix well with two gallons water. Then add two gallons oil of vitriol; stir quickly and thoroughly while the heat and vapor is escaping; then add two bushels of earth, and stir well; then add two pecks of salt and two pecks of plaster, and proceed to make a second lot. The materials cost here about twenty-five dollars per ton.

It costs $10 per acre to cultivate land in wheat. Interest on $50, $3. The fourth bushel for cutting and putting in mill, $2.50; ploughing fallow $1.50; drilling 75 cts.; harrowing twice $1.50. There is no profit to the farmer in a crop of ten bushels an acre; fifteen bushels per acre gives a profit of five bushels; twenty bushels per acre gives a profit of ten bushels. Therefore land that will yield twenty bushels per acre is worth twice as much as land that yields ten only.

Rule 1. Make your land rich by clover, barn-yard manure, by proper rotation, by lime, by phosphates, and by other fertilizers.

2. Plough deep enough to bring up some of the subsoil early after harvest, and harrow and roll thoroughly.

3. Apply guano and phosphates by the drill. A less amount in this way will accomplish more.

4. Remember that ammoniacal manures increase the growth of straw; phosphatic manures perfect the grain.

5. Sow wheat the last week in September and the first week in October.

6. The art of farming consists in making ample supplies of good manure and in using it properly. THOMAS MADDOX.

Washington Co., Md.

Smut in Wheat.

To the Editors of the American Farmer:

When I wrote to you last winter, promising you an article upon the subject of Wheat, we thought at the time we would be able to prove something that would be of incalculable benefit to the farming community, and as the experiment upon which that promise was based has been fairly tested we give it to you for what it is worth. In the months of September and October of last year we seeded two lots of Wheat, about 12 bushels to each lot. The seed Wheat on each lot was soaked for 6 or 8 hours in a strong solution of bluestone, for the purpose of testing its efficacy in preventing smut. On lot No. 1 we seeded a narrow strip of land requiring about one peck of Wheat to seed it. This peck of Wheat was not washed, and had in it a smart sprinkling of smut balls. At the time smut heads should have made their appearance last spring, we searched the field diligently and could find no smut, not the first head; we then came to the strip of land seeded with smut Wheat not washed. Here, too, we found no smut, and began to be dissatisfied with our experiment. We then examined lot No. 2, seeded in the same way, and on the strip of land with unwashed Wheat, found smut heads in the proportion of about 1-5 smut. We then examined the balance of the lot, and to our great surprise and mortification found smut all over the field. I am told and have seen it stated in Agricultural Reports that the English people are strong believers in the prophylactic powers of the sulphate of copper, and the custom is almost universal to use it in strong solution on the seed Wheat, but, Messrs. Editors, this experiment shakes my faith, and we are left in great doubt as to its efficacy in arresting this tendency to fungoid wheat. One thing is certain, it did not prevent the smut in my Wheat, and I am equally as well satisfied that no remedy has as yet been found for this disease. Spring before last, a neighbor of mine walking over my farm remarked to me, that if you will notice closely you will observe on every head of smut Wheat a small black bug, and when dried a puncture in very many grains—now whether, said he, this produces the smut or not I am not able to say; they constantly go together. There is a great deal of interest lately gotten up in this county over a new kind of Wheat, a white bearded Wheat, which yielded this year astonishingly, in every case I have heard over 20 for 1, save in one instance. A gentleman told me yesterday that he succeeded in getting two bushels last fall, from the sowing of which he got 32 bushels, and that off of ordinary corn land after the corn crop was taken from the land. It is a beautiful Wheat, and well worthy of a trial for other sections of our country. A small quantity can be gotten of Mr. Jas. A. Wright, Curdsville, Va., for $5 per bushel.

J. B. GARDEN.

Buckingham Co., Va., Aug. 7, 1872.

[The best English authorities, as intimated by our correspondent, approve the use of sulphate of copper as a preventive of smut—one pound being sufficient for four bushels of Wheat; it is dissolved in as much water as will thoroughly wet the grain, which as soon as dry may be sown. Early or thick sowing tends to impart conditions which are unfavorable to the appearance of mildew and rust.

In our August No., on Wheat culture, we gave some instructions for the preparation of the seed, which by reference to Allen's American Book of the Farm, we find are in accordance with his views. He says, "previous to sowing, a strong brine should be made of salt and soft water, and in this the grain should be washed for five minutes, taking care to skim off all light and foreign seeds. If the grain be *smutty*, this washing should be repeated in another clean brine, when it may be taken out and intimately mixed with one-twelfth its bulk of fresh, pulverized quicklime. This kills all smut, cleans out weeds from the grain, and ensures early, rapid growth. When the seed is not smutty, it may be prepared by soaking or sprinkling it with stale urine, and afterwards mix with the lime, and if well done this also will prevent smut, though the first is most certain."

We have a few remarks in this number on the quantity of Wheat seed to the acre, which we think is a good guide for American Wheat growers. In England and Scotland, where the average crop of Wheat is nearly 25 bushels to the acre, more seed is generally used; but the land is more highly manured and better cultivated than ours is, generally speaking, though naturally the soil is believed to be no better. In England, 6 pecks to 2 bushels grain are usually sown by the drill; less than the latter quantity is seldom sown in Scotland; and when sown on the common furrow, 4 bushels is the common allowance after green crops.

Mr. Mechi is a great advocate of thin sowing on good land, and states that once on one

field of his where only *one peck to the acre* was used (the seed dibbled in 4½ inches apart) the Wheat was too thick, his bailiff reporting that he counted 48 stems from one kernel.—*Eds. Am. Far.*]

An Experiment with a Home-made Fertilizer.

Editors of the American Farmer:

My wheat has been threshed, and that grown by my own mixture gave satisfactory results. You saw in May the strips of land which contained my wheat. They are of the same quality and texture, a white sand and whitish clay mixture, which is considered the worst character of soil for agricultural purposes in this vicinity.

Upon these strips, side by side, I ploughed in wheat at the rate of 1¾ bushels per acre, in the following order:

No. 1, wheat put in without any manure, contained 1¼ acre and threshed 11½ bushels at $1.70 per bushel, $19.55.

No. 2, wheat put in with 375 lbs. of a Baltimore manufactured fertilizer at $50 per ton. Threshed 13½ bushels at $1.70 per bushel, $22.95, less cost of fertilizer, $9.37, equals $13.58.

No. 3, wheat put in with 375 lbs. of my own mixture at $56.07 per ton. Threshed 23¾ bushels at $1.70 per bushel, $40.37, less cost of fertilizer, $10 50, equals $29.77.

Loss incurred by using purchased fertilizer on No. 2, $5.97. Gain by using my own mixture on No. 3, $10.22.

The following is the composition of my mixture and total cost as obtained from bill:

Muriate of Potash, 714 lbs. at 3½ cts..	$25.00
Nitrate of Soda, 175 lbs. at 5¼ cts. (bag 35 cts.)	9.54
Sulphate Magnesia, 355 lbs. at 3 cents (bbl. 40 cts.)	11.05
Sulphate Ammonia, 242 lbs. at 7½ cts. (bbl. 40 cts.)	18.55
2 carboys Oil Vitriol, 349 lbs. at 2 cts.	6.98
½ ton Ground Plaster	2.37
1 ton South Carolina Bone	25.00
Freight $6, drayage $2, commis. $2.67	10.67
Cost of mixing	3.00
Total	$112.16

All that was added in mixing the above was water to dilute the acid in dissolving the bones. They were dissolved in a pit of brick work and mixed with plaster until sufficiently dry. The dissolved bones were thoroughly stirred in with the other ingredients and passed through a wire sieve twice, bagged and carried to the field.

The weight of my mixture thus formed was 4500 lbs., making a total cost of $56.08 per ton. This mixture has proved so satisfactory in its results that many of my neighbors expect to use it this season.

I hope this experiment may prove useful to many who have been sinking money from year to year in worthless phosphates; we should be our own manufacturers, and if we buy good materials a good result must be reached.

EDW. B. EMORY.

Queen Anne's Co., Md.

Regulation of Farm Labor.

The question "*What shall we do?*" as started in the American Farmer, some months ago, has produced sundry suggestions to meet the exigency of the case—and we suppose that it is in accordance with these suggestions, that we have been earnestly requested to republish a communication from the pen of the late *P. M. Edmonston*, Esq., of North Carolina, which appeared in the Farmer some three years ago, upon the subject stated at the head of this paragraph. It was in the form of a letter to the Hon. W. Newton, then President of the Va. Agr. Society, which was about holding a convention in Richmond to consult about the farming interests of that state:—

"HALIFAX COUNTY, N. C.

Hon. Willoughby Newton,
Pres't Virginia Agricultural Soc'y.

DEAR SIR: One of the objects of your Convention I suppose to be the formation of some system by which, if possible, to regulate the laboring population in our midst, so suddenly transformed from slaves into freedmen.

At present, every individual has his own special and peculiar views as to their government, and the value which he attaches to their labor; the effect of which is to produce general dissatisfaction amongst all. Here one gives, say, $150 per annum for first class laborers, whilst another gives the same price, with every Saturday afternoon, and another perhaps the same price, with an acre of land for the exclusive use of the laborer, and yet another gives all three, and so on *ad infinitum*. In each case the laborer is (in his ignorance) dissatisfied with his own contract, and thinks that of his neighbor much the best.

What a great relief it would be to the employer, and what an advantage to the laborer, if there was some uniformity in the contracts, both as to prices, labor and privileges. But it is a mistake to suppose that there can, in this matter, be any *general uniformity* or system embracing the former area of slavery. This uniformity cannot extend, and the attempt ought not to be made to extend it, beyond localities, or counties, or sections, similar in respect to soil, climate, products, and other natural peculiarities. I trust, however, that you will agree with me, that the farmers in these localities or sections should consult and agree upon some system best adapted to their peculiar position, and so by establishing uniformity in this respect, remove one of the

great evils attaching to the present endless variety of systems.

But another subject of great importance, and one which I regard (if any *one* thing can be so regarded) as the root of the evil of our present system, is, that there is no authoritative or even general *standard of labor*. Every man, if he does not judge for himself, at least knows what satisfies him as first class labor. In those countries where free labor has long or always existed, the gradations of labor are well established, and a No. 1 ploughman is one who can plough so many acres per day in the best manner; a No. 1 ditcher, one who can lay off and excavate so many cubic yards of ditch per day, cut straight, and properly graded; a full day's work, for which the highest price is given in cradling wheat, is so many acres per day, cut clean and laid ready for the binder, and so on.

But how is it in Virginia and in the whole South? What *is* a full first class hand? How much land ought a man with two or four horses to break per day? How many cubic yards of ditch to excavate? How many acres of wheat or oats to cradle, or grass to mow? How many acres of cotton to chop out, or corn to thin? or how many pounds of cotton per day to pick, to entitle him to the highest price?

The answer may be, in each individual case: 'I do know what a first rate hand ought to do.' True; but how can *you* exact it, if *all* do not require it? or unless the price of wages is in proportion to the amount and kind of labor?

Or it may be said that these tasks or degrees of labor depend upon so many contingencies or circumstances, that it is almost impossible to establish any rule. But is this so? Is not the *amount* in every *kind* of labor which a first class laborer can do, rigidly fixed in every European country as well as in the Northern States? And, as a general thing, is not the price at which that labor is valued and all the gradations, degrees, and proportions, as rigidly fixed?

It is true there are contingencies and circumstances affecting the question, but they are all embraced in areas or sections of country. A day's ploughing on a rocky hill side, is a different thing from the same day's work in the level but heavy soil of the valley, and still another from that of the light sandy ridge —but still the hill side, the level, and the sandy ridge, can each have their standard of excellence and their gradations.

Until we settle this question and fix upon some rule or standard by which to judge and regulate the matter, we are at the mercy of the laborer, and are without the best means of government. To-day I have men on my farm who hired themselves to me as first rate hands—could do, as they said, 'as much as any other man'—and yet now, and throughout the year, they have been doing little more than one-half as much as a first rate hand ought to do, or as some one or two of my really good hands have been doing. This is exactly the experience of all my neighbors. It is not only an imposition on me, but an injustice to those hands who really do full work. The remedy is, for the farmers, *together*, to say what should be deemed full labor for a full hand; and let this labor be exacted. Of course each man can pay what he chooses for the best labor, but he then has it in his power to make the gradations, and proportion the price paid according to the amount of labor done.

But I only intended to suggest, and find myself discussing. I trust you may deem the subject worthy of your attention, and adopt some plan which may serve as an example to other sections of the South; and with the hope that you will excuse the liberty of thus addressing you, taken by a stranger but warm admirer, I have the honor to remain,

Most respectfully, yours,
P. M. EDMONDSTON."

Plaster—its Value upon Crops.

Editors of the American Farmer:

After compliments to you, I will say that all fall crops look fine: corn, potatoes, tobacco, &c. I received from you the plaster ordered, and at this date I feel myself well paid by the investment. My corn is the brag corn of the neighborhood; in fact, everything to which I applied the plaster looks well beyond all expectation. I applied plaster to my buckwheat, leaving a part of the field without an application. The part plastered is now three feet high, the other nine inches. Please answer this question: Can I expect so great gain by an application of plaster to wheat? And why not apply as soon as the wheat is fairly set on the ground, say in the fall? You say, in a letter to me, to make the application in the spring. If it will do to apply plaster in the fall, I wish to order now as soon as I hear from you.

Apple trees are affected, from some cause, so that the bark is coming loose on the body and limbs, and the leaves are dying. Some trees are dying. What is the cause? I enjoy the Farmer. L. B. MAXWELL.

Pleasants Co., W. Va., Aug. 10.

[In reply to our correspondent, we would say, that the use of plaster in his barn-yard, or composted manures, will be found very beneficial—and he will find that we universally recommend it so to be used. It not only economises or preserves the nitrogenous portions of the manure, for the future use of the crops, but acts in a double capacity, through its lime and sulphuric acid, in feeding them. The expense is so small, in comparison to the effects produced, that the farmer can hardly go amiss in using it at all times and on all crops —it will almost double the value of the putrescent manure to which it is applied, in preserving the ammonia therein, but it at the

same time draws from the atmosphere the floating gases to increase the richness of that manure, and the crops to which you may apply it. In a word, we would repeat what we have said on former occasions, that "the increased value is imparted to the manure, by the action of the sulphuric acid of the plaster upon the ammoniacal gases, with which it combines, prevents their escape, and holds them in reserve for the future use of any plants to which the manure may be applied. After having encountered the trouble, the labor and the expense of accumulating manure, for a year, it is certainly bad policy to permit any of its virtues to be lost, when about to use it, when the means of saving them are within our command, at so trifling an expense." Our correspondent will, in addition to the application as thus recommended, be benefited by a top-dressing in the spring—which is cheaper than the application of nitrate of soda, recommended for use in the same way, though the latter will be more powerful, and may have a greater effect on the plants where the winter has dealt hardly with them.

We would be glad if some of our horticultural friends would answer the question about the disease of the apple trees.—*Eds. Am. Far.*]

Heavy Freights on Fertilizers.

To the Editors American Farmer:

Please accept my thanks for your promptitude and kindness in sending me the lime and plaster without any charge to me. They were received in due course of time (good articles) and in good, neat order. Your liberality as agents in purchasing fertilizers, machinery, stock, &c., free, or almost free of charge, for farmers, I hope will receive a just recompense of reward.

FOR THE GOOD OF THE PUBLIC.

Written expressly for all publications having for their object the prosperity of Agriculture.

Some three weeks since I sent Messrs. S. Sands & Son, Editors of the "Farmer and Register," Baltimore, $17 for the purchase of one ton of lime and one ton of plaster. These gentlemen, who are agents for the purchase of fertilizers, machinery, stock, &c., promptly sent me the lime and plaster without charging me one cent for their trouble. In due time both articles arrived safe at depot, Statesville, N. C, and from long experience in the use of lime and plaster, I am forced to say they are good articles. The packages, both barrels and sacks, sound, with *no* breakage or wastage!

(Copy of the Bill.)

Shipped by Sam'l Sands & Son,
To D. Bradwell, Statesville, N. C.

6 bbls. (1 ton) Ground Plaster, $1.75	$10.50
1 ton Oyster Shell Lime (13 sacks).	5.50
Drayage	1.00
	$17.00
By cash sent	$17.00

Copy of charges transportation from Baltimore to Statesville, N. C., $28.81.

The reader is invited to notice that the cost of transportation is almost double the amount of the cost of the lime and plaster. Such extravagant charges for transportation places these fertilizers out of the grasp of farmers. Without fertilizers farming must go down—farmers in this part of the country may "hang their harps upon the willows," and sing their songs in a strange land. Agriculture is the basis of all national prosperity—it is the great lever power that energizes and strengthens all other industries. In consequence of these prohibitory charges of transportation, what will become of the millions of dollars now invested in the city of Baltimore for the manufacture of fertilizers?

The Legislature of Georgia a few years ago very wisely cut down the freight of all fertilizers, as well as agricultural machinery, to $8 per ton. Why can't the Legislatures of other States adopt the same wise, enlightened policy? What is it, and who is it, that feeds the railroads, steam vessels, &c., but the products appertaining to agriculture?

The farmers at this distance from Baltimore may well say farewell—a long farewell—to all the factories engaged in making and selling fertilizers in the great Monumental city, under such charges as have been imposed on your very humble servant,

D. BRADWELL, M. D.

[We publish the above as received from our correspondent; a remark or two in connexion therewith is necessary. We hear frequent complaints of the same nature as that given above, and we deem it our duty to call public attention to the matter, in the hope that those who are interested, our business men in the city, as well as the farmers on the lines of railroads, &c., will take the subject in hand and endeavor to remedy the evils complained of. It has generally been the policy of transportation companies to put as low a tariff on fertilizers as possible in order to encourage the increase of produce which will be carried on their lines by their use. Here in Baltimore we have given liberally of our money and credit to aid in opening up avenues of trade to distant points, but if we are to lose all the advantages thereof by the exorbitant freights charged, the system, which has been stretched pretty far, will be very apt to be changed

in the future. In the case before us, however, it is but just to say, that as soon as we received intimation of the apparent imposition, we wrote to the agent at Portsmouth on the subject, and were promptly assured that "a considerable reduction would be made."

A word more—our correspondent is in error in regard to our Agency—we do not transact our business without fee or reward. We endeavor faithfully to do our best for our friends who, having no commission merchant here to transact their business for them, require our services in the purchase of any thing they may need; in most cases an allowance is made us by the seller, which is satisfactory to us for our trouble; but where this is not done, we then charge the purchaser a fair commission.—*Eds. Amer. Far.*]

On the Cultivation of Sumac.

Messrs. Editors American Farmer:

I thank you for sending me a specimen copy. I like the paper. In the first article of the August No. you speak incidentally of the cultivation of sumac. I should think it would be a great aid to those who wish to contract their operations, confining their labors and applying their fertilizers to a smaller area. It is folly for us to attempt to raise wheat, and if we can put a couple of fields in a permanent sumac plantation, it will save us much labor and expense and be more remunerative (which remains to be seen) than general farming.

How is sumac quickest propagated?

What kind is most profitable?

How is it treated in preparing for market?

Peaches few and poor; pears better, but few; grapes good and plenty. Large quantities of fodder sown.

Yours, &c. JOHN T. BRAMHALL.

Fairfax Co., Va., Aug. 9.

[Our correspondent will find on another page of this No. some useful information upon the subject of his inquiry, prepared before receiving his letter, and we will hereafter follow it up by publishing other particulars. We fully agree with him,—and for this reason we are calling attention to the cultivation of sumac, flax, beets, fruits, &c.,—that it is necessary to diversify our products, as we cannot compete with the West in the raising of cereals—there are, however, many other articles we can raise which will be found more profitable than wheat. This is especially true of those so favorably situated, as regards markets, as our correspondent, who, we believe, has not been slow to avail of the advantages he has in this respect.—*Eds. Am. Far.*]

What Shall We Do?

(Continued from the August No.)

To the Editors of the American Farmer:

In my last I proposed the way to the victory. I would say, reduce your acreage of tillage—the South had at one time a pride in stretch of domain; this now will not do—an enterprising Yankee will take a corner of your estate and make more than you on your extended farm. And wherefore? Because his area gives him more time for both preparation and thorough tillage.

Be sure to make your farm as self-sustaining as possible; buy nothing that you can raise—adopt the system of mixed husbandry. I know men here that own 5 and 6000 acres of land that ship probably 20 or 40 bales of cotton, paying heavy taxes, and live on what little salt pork they have, no butter, seldom any fresh meat of any kind—and why? Because they have no clover, and they seed no grass, and the natural grasses here are simply worthless, save now and then an acre or so of meadow. Is not, Messrs. Editors, this policy suicidal at best? The manorial system is destitute of system or sense.

The crop is laid by in August, and this, the time when energy should be displayed, reminds me of the Confederates when they won a battle—all right; lay by, boys, we've got 'em. Not so; raise all the manure you can, and after placing it, plough in as soon as possible, thereby saving its most valuable parts. Especially try and save the liquid manures by well littered pens or reservoirs. If you will buy fertilizers, don't depend too much on such as will stimulate, but not enrich. Buy bone dust and potash; they will last; guano a little will do as an excitant, but if the land is poor, and no vegetable matter is there, your land will suffer. Turn under peas and clover and throw on your plaster and potash and ground cotton seed; watch your points; let patience have her perfect work, and with judgment and well directed energy, you shall be blessed in your estate. Don't make haste to be rich—take a piece of land and work on it as you would a bad habit—file it down, file off all its excrescences—don't undertake too much—do what you do well—rather be considered a well-to-do, small farmer than an ill provided large one—never overlook small items—the nearest approach any man can make to Deity is to have a combinative mind—to watch the sparrows as well as the planets; of course I mean in degree, as we are fixed.

Be systematic—attend to all the minor details of the farm; be prudent in all things; work, watch and wait, and if you don't succeed here, you will at least have left a good example, and your estate hereafter will immeasurably repay you for what you have lost here.

Let systems wane—edicts change,
Duty's bill shall ever honor'd be.

Halifax Co., N. C. JNO. D. THORNE.

Sanford Corn---Fertilizers---Farm Labor.

To the Editors American Farmer:

My experience with the Sanford corn you sent me is a sad one. *First*—I could not get a good stand. *Second*—The ears are small, and within two feet of the ground. *Third*—It makes but little fodder—an important consideration to us.

My land was old, yet I applied, say a shovelfull of cow-lot manure and a large tablespoonful of Nevassa guano to each hill—enough to have made a good crop with our ordinary seed.

If the land were very rich, or highly manured—say 300 or 400 lbs. of guano to the acre—I think the seed you sent me might do well, even in this latitude.

It is not as prolific, though earlier, than the Early Baltimore White, which I still plant to some extent.

The "Cooly" corn sent to me from Washington city has done much better for me than the "Sanford."

I am satisfied that very few of our farmers in North Carolina will make more than 20 bushels to the acre, and a large proportion of them will not average over 5 or 6 to the acre. This you will say is poor farming, and so it is.

With us the best lands and nearly all the manure, including fertilizers, is applied to *cotton*, and the corn is left to take care of itself; planted in poor land, and not over half worked. What but short crops could be expected under such a system?

And, yet, badly as we manage, the corn crop this year will be a good one, having had plenty of rain.

Less corn will be bought here next year than any year since the war. Still I must say that the present system of labor—*the freedmen*—is working badly. They are full of politics, and seem to care very little to work, even for good wages—50 to 75 cents per day and fed. This is certainly the *general* rule, though there are some honorable exceptions. The feeling here is becoming common, we must plant less and manure more highly, and more than that, *we must make our own manure*. The various *fertilizers* are good for the present, but they are too costly and too soon exhausted to suit us.

My judgment is, that after a few years the present system of labor—*freedmen*—will utterly fail, and then what is to become of these poor, unfortunate creatures?

Let us have small farms, highly manured and well cultivated, until we can secure a more reliable class of laborers than we can get at present. Until then our white men must plow and hoe and our females must do the housework. This will make us *independent*, if it does not make us rich. Excuse these hasty thoughts. With great respect, yours, &c.

J. T. McPherson.

Laurensburg, N. C., Aug. 9, 1872.

Cultivation of Potatoes.

To the Editors of the American Farmer:

I propose the following for Irish potatoes, and am sorry I did not think of it in time for the present crop, but as your journal is doubtless filed by your subscribers (or ought to be,) it will serve for the next crop for those who may see fit to try it.

Plow your land and subsoil deeply; harrow to a fine tilth, and check your land 3x2 feet. At each intersection drop a whole potato, the largest you can get of the Rose variety.—Place a double handful of this compost, which should be prepared sometime before planting: Cotton seed meal, bone dust, a little guano and salt in such proportion as the practical farmer shall deem best—the guano of course only in such quantity as to give the plant an early start; the cotton seed meal and bone dust to furnish the chief food and soft bed—the salt for tonic and moisture.

Don't cover too deep—3 inches is sufficient; your tilth deep to carry down superabundant water in wet and to attract moisture in dry weather. Dress with plaster at eve or early morn; the potato likes moisture, but not a wet soil. Stable manure, from its heavy charge of ammonia and consequent heat, starts the potato finely, but I find has a tendency to rot. Don't hill too much, for it causes the succulent stem to rot off above the potato.

Very respectfully yours,

Jno. D. Thorne.

The Application of Manure.

In a former paper we spoke of the application of manures at what we consider unfavorable seasons, and now recur to the subject, hoping our readers generally will give their experience. We are not all agreed upon this point, and there is some consolation in the fact that each may follow the bent of his own inclinations, there being room in the world for all. We may state generally that we object to apply manure to a subject at a time when it is dormant—the subject, not the manure. We have tried this experiment on a small scale many times—once upon an area of about 10 acres, the results being very similar in every instance.

Having one season a larger number of acres than usual devoted to root crops, and fearing that we would not be up with the work in the spring, we concluded to manure a portion of the land in the early winter and fallow it in; the result was the poorest crop of roots on the estate. The land is a loam inclining to clay, and, not needing artificial draining, just the kind of soil we would expect to retain the fertilizing elements for a considerable time.

Our practice and advice is to put in all the manure we can afford at a time when the roots are in active state, or about to become so, as with sowing seed—barn-yard, stable manure, &c., all we can get; failing that, we con-

sider the crop we wish to grow, and apply that artificial fertilizer likely to give the best returns. Of course we cannot always do as we would, but there is a point at which we aim that we keep in view. We would like *every* reader of the *Farmer to be experimenting carefully in a small way*, to be observant to note effects, and whenever practicable to trace them to their cause. Knowledge thus obtained is of the utmost practical utility, and ought therefore to be doubly interesting. N. F. F.

Barn-yard Manure.

A very intelligent correspondent and practical farmer, in Western Maryland, writes us as follows:—

"The cultivation of Wheat is a nice operation, embracing a wide field of enquiry as to manures, the time and manner of preparing the soil, the seeding, harvesting and threshing of wheat—all very important. We have had a drought without parallel for the past year. Our springs and pumps are, fully one-half of them, useless, because of the long continued drought.

"Farmers make too little manure—neglect what they do make too much—expose it to the rains and winds, and are careless in using it. Mr. Commissioner Watts advises the application of manure before ploughing. I like it best, for corn especially, after ploughing. It may seem presumption in me to present my views. I hope it may stimulate enquiry and lead to closer observation. We have much to learn."

The following, we suppose, are the remarks of Mr. Watts, alluded to above by our correspondent:—

"The experience of many years has led me to the conclusion that the deterioration of the wheat crop is mainly attributable to the improper and untimely use of barn-yard manure. In our practice the clover sod is turned down and planted with corn. The ground is again ploughed in the spring and sowed with oats, and upon the stubble of this crop all the manure of the barn-yard put, and then ploughed again and sowed with wheat. This delicate plant is then subjected to the rawness and grossness of barn-yard manure, with all its germs of flies, worms, lice and bugs—seemingly a sufficient cause of the unsuccessful growth of a grain so pure and delicate as the wheat. Corn is the hog of plants, and will devour food of any quality and thrive upon it. Here then, upon the sod to be ploughed for corn, is the place to put barn-yard manure. Bury it deep, and when the corn is cut off break the stubble even with the ground during the winter. In the spring harrow the ground well, sow your oats upon it and roll it. You will thus keep your manure where you put it, and not subject the oat crop to being thrown down by it. When the crop is removed bring your manure to the surface by deep ploughing and thorough tillage. The barn-yard manure having thus received proper preparation is a fit food for the wheat plant. Experience has taught me this lesson. On my farm in Pennsylvania I never fail to raise a satisfactory crop of wheat, and I have known no such thing as midge, Hessian fly or army worm."

Fish Guano.—A correspondent of the *N. E. Homestead* details the experience of Messrs. Smith & Bishop, of East Hartford, Conn., in the use of fish guano as follows:

1. It is one of the most valuable, and at present prices we think the most economical fertilizer we can use. The firm of Smith & Bishop show their faith by their works in their use of about two hundred tons this fall.

2. Fish guano should be well decomposed to be in the best state for application to any land and for any crop. We think this is of more importance on a heavy soil than on a light one, as it will remain in its comparatively raw and so injurious state longer in a cold than in a warm soil.

3. The quickest way to secure this decomposition is to mix the guano with a pile of fermenting stable manure. The pile should be covered with dry earth to prevent loss of ammonia, and turned often enough to prevent burning. In this way, two or three weeks will put fish guano in good order for use with great advantage to the manure as well.

4. More or less earth can be added to the heap (not less than three or four times as much earth as guano) or it can be made of all earth in any proportions that convenience, plentifulness of earth or cost of cartage to and from the heap dictate, only the more earth the less heat and the slower the decomposition. Frequent turning is always of advantage to a compost heap.

5. The sun-dried guano will give much more heat in the compost pile than the half dry, and, we think, is worth more than twice as much per ton, besides being much pleasanter to handle.

6. Raw fish guano, *i. e.* any not thoroughly decomposed, is injurious to any plant, and even when it does not kill it outright it will often damage its growth so that the farmer will be dissatisfied with his crop, and blame the fertilizer for his own error in its application.

A long Milker.—A correspondent of the London Milk Journal gives the following remarkable case of long milking:—

"The parish clerk of Redgrave, Suffolk, had a cow. This cow calved before her time, on the 10th of March, 1863, owing to being frightened by the church bells ringing all day for the Prince of Wales' wedding. She never had another calf after that day, but she gave milk regularly from that date until the man sold her, October 4th, 1870, *i. e.*, for seven years and seven months. When he sold her she was still making 1½ lbs. of butter per week."

THE AMERICAN FARMER
AND
RURAL REGISTER.

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WM. B. SANDS, }

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BALTIMORE, MD., SEPTEMBER 1, 1872.

New Subscribers to the "Farmer."

To all new subscribers for 1873 who remit now, we will send the remaining numbers of this volume FREE. This will give fifteen months subscription for $1.50.

In our next issue we will present a liberal schedule of premiums for subscribers to the new volume. We hope our friends will remember that it is always in season to press the claims of the Farmer upon their neighbors. One new name from each of our present subscribers will give us a good start on the new year; and we hope a great many instead of sending one will send a club.

REPORT ON FARM LABOR.—Among other papers received, but omitted for want of room in this number, is one containing a Report to the Agricultural Club of Suffolk, Va., on the subject of farm-labor, which came to hand after our pages were already full. It will appear next month.

OUR ADVERTISEMENTS.—We hope all will read these attentively. The most substantial and reliable houses are represented in our pages, and all the requirements of the farm and family can be filled from the wares they present to notice.

The Sale of Mr. Walters' Percherons.

In our June No., in our account of these valuable horses, we alluded to the fact that none of them had ever been sold, Mr. Walters having preferred to retain them under his own observation until satisfied as to their merits and adaptability to the climate of this country, and we ventured the opinion that their rapid increase would at no distant date necessitate his disposing of some of them, their numbers having long been greatly in excess of the requirements of his farm.

From the advertisement in this issue of the *Farmer* it will be found that we were right, and that a number of these horses will be sold at public auction at the Pimlico Fair Grounds, near this city, on the 11th of October, that being the last day of the show of our State Agricultural Society.

Having so recently referred at considerable length to the characteristics of this race, and the merits of these individuals of it, we deem it necessary here only to add that the imported horses were all selected in Perche by Mr. Walters himself, he having traveled on foot some 200 miles in order to visit every stallion then standing in the country. Favored in every way by the officers of the Emperor's government, he was enabled to make far more satisfactory selections than would otherwise have been possible, both of stallions and breeding mares. The Percherons which have generally been introduced into this country have been purchased through the intervention of brokers or jockeys in Paris, where stallions of this breed (they are never gelded) are always to be found to the number of over 5,000. The mares, however, are always retained at the breeding stations in the provinces, and so far as our knowledge extends, very few, if any, save those of Mr. Walters, have been brought out. From the judgment shown in the original selections, and the care in the subsequent breeding, the younger animals show no deterioration from the high standard of their sires and dams.

We congratulate the breeders and farmers of the whole country that this opportunity is afforded them for the purchase of really magnificent specimens of this superior breed, fully satisfied that it furnishes us with the material for draft horses, suitable for farm and similar work, such as we so much need and find so difficult to obtain.

We suggest to agricultural clubs, county societies, or combinations of farmers conveniently located, the propriety of their buying, for use in common, one of the stallions to be offered at this sale, satisfied that by crossing him upon their best mares a result will be attained very satisfactory and very useful. The fine animals everywhere found where the horses of Mr. Walters have stood, abundantly prove this.

We consider that Mr. Walters, in the care and expense at which he has been in the introduction and thorough testing, under varied conditions, of this breed of horses and in the opportunity which he now gives for their wide dissemination, has proved himself a public benefactor, and is especially deserving of the thanks of our American farmers.

FAIRS FOR 1872.—A list of Agricultural and Mechanical Fairs to be held this Fall, will be found on another page. Among the Mechanical Institutions there is an unusual degree of effort being made to surpass all previous exhibitions. The managers of the American Institute, at New York, state that the applications for space this year have been more numerous than ever before, and it is expected that the Fair will be the most extensive ever held by them. The same is stated in regard to the Fair to be held in Cincinnati; and we are assured by President *Bentley*, of the *Maryland Institute*, that the Fair to be held in the Institute building, Baltimore, will be by far the most attractive one ever opened to the public by that association—some new features are to be introduced, particularly in regard to *operating machinery*, which will enable exhibitors to show off their productions to better advantage than on any former occasion. *A Gold Medal of Honor* will be awarded by the unanimous vote of the Committee to the Inventor of the machine, or Discoverer of the process which shall be adjudged to be so important in its use or application as to supplant every article previously used for the same purpose in some branch of the useful arts. We hope that no one who may visit Baltimore during the time for holding this or the *Maryland State Agricultural Society's Exhibition*, will fail to drop in to the Institute's grand Hall.

In our next No. we expect to give an account of the operations of a very successful vineyardist near this city.

Ploughing Match in Baltimore Co.

At a meeting of the Gunpowder (Balt. Co.) Club, held on Saturday, 18th ult., Mr. John D. Matthews, from the committee appointed upon the subject at a former meeting of the Club, reported upon the advisability of holding a Ploughing Match, and the Club selected the 7th Nov. for the trial, and the farm of Mr. John Price, near Sparks' Switch, on the N. C. R. Road, as the place of trial, open to all manufacturers and dealers in Ploughs—who are requested to give notice in writing, at least one week before the trial, to *Sam'l M. Price*, Philopolis P. O., Balto. Co., Md., of their intention to compete, in order that suitable provision may be made for the carriage of their implements, &c., from the railroad depot at Sparks' Switch to the field intended for the trial. Although other ploughs will be received, the committee wish it to be borne in mind that 3-horse ploughs are most generally required for the stiff soils of their vicinity.

It is also understood, that other articles of agricultural machinery will be permitted on exhibition on the grounds, and it will be an admirable opportunity for those having new or valuable articles which they wish to introduce to the public, to exhibit them on the occasion.

A committee of the Club is appointed to make all necessary arrangements for the occasion, and a very interesting exhibition will be made, and a large attendance is expected.

☞It is to be expected that the railroad company will make liberal arrangements for round trip tickets and for freight on the occasion.

WHEAT CULTURE.—In this number we have furnished various useful papers upon this subject, which will be found timely,—and we would particularly call attention to the communication of Mr. Maddox, of Washington Co., Md. The admirable practical papers from the pen of this gentleman, published in the spring upon the cultivation of Corn and Clover, induced us to ask the favor of Mr. M. also to furnish us with one upon the cultivation of Wheat, which he has done. Like Mr. Emory, he has given us his formula for making his own fertilizer, which, in this day of universal inquiry, will be found acceptable to many who may prefer to make their own fertilizers, instead of buying those already prepared.

TIME OF SOWING WHEAT.—We attended the monthly meeting of the Gunpowder Club of Baltimore Co., held at the farm of Mr. Nelson Miles on the 18th ult. The attendance was full, but one member being absent, and he, the oldest member of the Club, being detained by sickness. It is remarkable to witness the interest manifested by the members in all its proceedings, and the social meetings and greetings thus monthly enjoyed,—and enjoyed so rationally and instructively, too—give evidence of the dawning of a new era in the life of the farmer—it is no longer to be the mere hum-drum routine which has been so much the rule heretofore, but the intelligence and kindly feelings exchanged at these Club meetings are calculated to arouse all their latent energies, and to force them to study, to experiment, to improve upon their old practices—to find out the *better* way for their operations, and to adopt the plans and practices of their neighbors which have been found more successful. To show the interest taken in these gatherings, we will state a fact which occurred at this last meeting—a member, with his family, was at one of the watering places, hundreds of miles off, but remembering that the meeting of the Club was in the middle of the time allotted for his absence from home, he determined to forego one-half of his visit to the sea-side rather than miss meeting with the Club; he had never but on one occasion missed roll-call since its formation, and that was on account of sickness.—Some of the members have lately visited California and the celebrated Yo-semite Valley in that grand State; and others have recently traversed the farming regions of Western New York, and are enabled to report to their fellows the result of their observations in that rich agricultural country.

But these remarks are foreign to our purpose in alluding to the proceedings of the last meeting of the Club. The subject matter for discussion was as to the proper time for sowing wheat, and whether it was best and most profitable to put in the seed with the drill, or by broadcasting. Considerable difference of opinion was manifested upon both points.—One of the Club has sown wheat as early as the 1st August, and as late as the 1st November, with equal success—the season was considered as having much to do with the success in such cases—others did not sow until after frost, as by so doing it was thought the ravages of the fly would be more likely to be avoided—but the general opinion and practice was decidedly in favor of getting the wheat in the ground the last of September to the first week in October. We cannot at present, for want of room, go more at length into details, and will only add that all the members are successful growers of the crop. Some of the members were not favorably impressed with the value of the drill, deeming the labor necessary in getting the land in order for the better use of it, was greater than the benefits claimed for it—but the preponderance of sentiment was decidedly in favor of the use of the implement, and some of the members deemed that the objection alluded to above was one of its merits, as inducing farmers to adopt a neater and more thorough preparation of their land for the reception of the seed—and that the saving of seed was an item of no inconsiderable amount, being the difference between 1¼ or 1½ bushels to the acre by the drill, to 2 bushels where broadcasted.

As stated elsewhere, the Club determined to have a Ploughing Match in November, of which we shall have occasion to speak more at length in our next.

We cannot omit alluding particularly to the little farm of the host for the day. We believe it contains but about 50 acres, yet Mr. Miles has by his excellent judgment and skill, combined with untiring industry, brought almost every foot of it into cultivation, which returns him full profits for all his efforts; it is nearly all set out in fruit, large and small, of the choicest varieties, and by his judicious management he has not only been able to build his own dwelling and numerous outbuildings, and supported a considerable family, but has recently bought in his vicinity farming land to twice the extent of his own. Altogether his farm shows what can be done by skill and industry.

THE CROPS.—The fine general rains of the past month were just in time to save the corn, which in some sections had a very narrow escape, in consequence of the long drought about the time that moisture was necessary to make the grain. The potato crop has suffered materially, either from insects or from want of rain, and will be very short. The pastures have been much improved by the rains, but the suffering for water in springs and streams has been but partially relieved.

National Swine-Breeders' Convention.

This Convention held a session in May last, and appointed committees to prepare reports upon the history, characteristics, and a scale of points for the respective breeds of swine, and upon the question, "What constitutes thorough-bred swine?" also one to name time and place for holding the adjourned meeting of the Convention, which has called a meeting to be held at Indianapolis on 20th Nov. next, to which breeders, agricultural societies, and others interested in this great National enterprize, are invited to be present, in person or by delegates. Circulars can be had of the general nature of the meeting, by addressing Charles D. Blogdon, 5 Beekman street, New York city.

Committees have been appointed to report upon "What constitutes thorough-bred swine and upon the history, characteristics and a scale of points for the following breeds," viz: Berkshires; Improved Cheshires, or Jefferson Co.; Chester Whites; Essex; Neapolitan; Magie, or Poland China; New Jersey Reds; Suffolks and other large White English; Yorkshire and other small White English breeds; and Victorias.

THE THOMAS SMOOTHING HARROW.—From every direction in which we know of the use of this valuable implement, comes a verdict of approval. There is no doubt of its efficiency in the cultivation of corn, and some large farmers in our vicinity have been enabled by employing it to make great saving in hand labor. We have used it very considerably in corn and potatoes, and for soils similar to ours, which is light, can commend it highly. In the preparation of land for wheat it is very useful, and will doubtless soon repay its cost in the better preparation of the land for the cereals.

CLOVER IN NORTH CAROLINA.—Our old friend, Jos. Joyner, Esq., of Pitt Co., N. C., writes us:

"I have seven acres in clover, very fine, and a perfect curiosity in this section of the country. I expect to sow down fifty acres this fall. I wrote you about a mower some time ago, but concluded it would not pay to buy one before next spring, and wrote you to that effect. I put in my old reaper, (Hussey's,) which you sent me some fifteen years ago, and clipped off the seven acres of clover some weeks ago, and it is now growing out beautifully. This is a first rate clover region here. I received the Aug. No. of your excellent journal, and it reminds me of old times."

Judge Watts' Report for 1871.

We have received from the Agricultural Bureau the Annual Report for 1871, just published, and from a hasty glance at its contents, we expect to gather from its pages many valuable hints to present to our readers. And here, in advance, we would suggest to those who may wish to obtain a copy of this Report, to lose no time in applying to the member of Congress from their district, or one of the Senators from their State—each member of Congress is entitled to between 600 and 700 copies for distribution, whilst the Department has but 25,000 copies, scarcely sufficient to supply its regular correspondents, agricultural societies, and the press.

The paper on "Southern Fruit Growing for Market" is very interesting, showing the great advance which has been made in this important branch of farm economy. We have laid off a portion of this part of the Report for early insertion.

A very satisfactory paper on the Jute plant is given in this volume, with the mode of culture, preparing the fibre for market, &c., the cultivation of which, it is believed, can be profitably extended to other Southern States, besides Louisiana and Texas, where it is now raised. The importation of Jute, and the manufactures therefrom (of which one and a half million dollars are paid for gunny cloth and other bagging,) amounted in 1871, to $5,-362,988. It can be used in the manufacture of many articles now mainly or wholly made of cotton and wool. The seeds are sown in the spring, and in due time we will transfer the essential portions of this paper to the pages of the *Farmer*.

The report of the chemist of the Department, now Mr. R. T. Brown (who has succeeded Dr. Antisell,) is very interesting.—Mr. Brown very justly remarks that "whatever diminishes the faith of farmers in the good effects of manures on their crops, tends ultimately to diminish production, and may therefore be regarded as a public calamity," and adds, "the agriculture of this country, at the present time, depends very much on the confidence which the farmers have in the liberal use of manures, and the intelligent exercise of this confidence."

The Chemist seems to be of the Nitrogen school. He says that an acre of ground producing 25 bushels wheat is required to fur-

nish 40 lbs. ammonia, or its equivalent, in some other available form of nitrogen, in order to perfect the grain—what there is in the straw is returned to the soils by every good farmer; but the grain is not expected to be returned in any form. "From whence (he asks) is the soil to obtain the ammonia to replace that sold in the crop?" The calculation is then made that there are 10 lbs. per acre in the form of ammonia and nitric acid furnished by the rainfall, and in addition to the 10 lbs. returned in the straw, it requires 20 lbs. more to be furnished per acre to supply the needs of the crop. We will not stop now to delineate the sources from which this amount is to be obtained, but will give the value of this, as of other chemicals. He says:

"In the following tables of analysis it is the chief purpose to show the amount of available nitrogen, the quantity of phosphoric acid in its several conditions, and the proportion of potassa. The first of these we choose to represent as ammonia, because this is the usual, if not the only, form in which plants appropriate that element.

Phosphoric acid exists under three forms, to wit: soluble, insoluble and reverted. When phosphate of lime has been acted on by sulphuric acid, so as to reduce the phosphoric acid to such a condition that it will dissolve in pure water, if it be long kept in contact with lime or other bases, it passes into a state in which pure water will no longer dissolve it, though in this condition it is readily soluble in water, holding oxalate or citrate of ammonia in solution.

We have the highest authority for assuming that in this form phosphoric acid is practically as valuable as in the soluble form; we therefore estimate them together. We subjoin a table of values in currency, compiled from the latest and most reliable authorities:

	Per Pound.
Ammonia	$0.22
Phosphoric Acid, soluble and reverted	0 15
Insoluble	0.05
Potassa (as anydrous oxide, K. O.)	0.08

The chemist refers also to another element of plant food, no less important than nitrogen, and almost as difficult to obtain, viz., phosphoric acid, which he says must be supplied in a soluble form, or the crop fails—but a neutral salt of phosphoric acid is almost entirely insoluble in water, and is to that extent unavailable as plant food. He says, "when successive crops have exhausted the soluble phosphates in a soil the land will refuse to perfect the grain, though the early growth of the crop may be in fair proportions—but if the phosphates are present in an insoluble form, rest will temporarily restore the productive power of the soil by the action of natural agencies, rendering a sufficient supply of the phosphates soluble, and, consequently, available. But few soils have a large supply of phosphates, even in the insoluble form; *and if grain and hay and live stock* have been sold from the farm for a succession of years, and *no compensation* made for the phosphates thus removed, there comes a time, sooner or later, when this element of fertility will be exhausted, and the soil *refuse to produce.*" Soils robbed of this indispensable element of fertility, will require to be furnished from some other source. Rest will not restore it, and the chemist adds "the most direct, and as yet the most available, source of this supply is found in *bones*—but to make these immediately available, they must be reduced to a powder, the finer the better. But if it is desirable to get the entire effect of bone-meal at once, it must be rendered soluble in water. This is best effected by the action of sulphuric acid, which reduces the neutral salt to the form of an *acid phosphate*, in which form it is readily dissolved in rain water. It may not be amiss, in this connection, to remark, that it is not good economy to use the sulphuric acid in sufficient quantity to render all the phosphoric acid soluble that is contained in the bone-meal used. A risk of losing much of it by heavy rains is constantly incurred when the soil holds a superabundance of soluble phosphate." To avoid this, he recommends that bones or other neutral phosphates should be reduced to a fine powder by grinding, or by the operation of caustic alkalies, such as strong wood ashes, &c., which renders it less active as a fertilizer than when acted on by sulphuric acid, but the effect, even if the same quantity is used, is continued much longer.

Of *lime*, the chemist takes the ground we have often urged—it is necessary for a fertile soil—but, he says, "*lime is not really a manure;* it does not really increase the stock of plant food on hand, but only *hastens the expenditure of that material.*" *Plaster*, he says, is another indirect manure, the action of which has long been a subject of discussion among observing farmers. "The action of plaster is chiefly chemical. Sulphuric acid (which, in combination with lime, forms plaster,) prefers ammonia to lime, and in the presence of that substance abandons the lime, to form a new salt with ammonia. One of the great difficulties

in manuring land is to retain ammonia for a full supply to the crop during the summer.—It is a gas, lighter than air, and even when combined with carbonic acid, (its usual form,) it is exceedingly volatile. Carbon in the form of charcoal, muck, or even vegetable mold, will absorb ammonia largely, and retain it with a good degree of tenacity under ordinary circumstances. On soils abounding in carbonaceous matter, the effect of plaster is scarcely perceptible; but where this is scarce, plaster retains the ammonia that is *brought to the soil either by rain water or by the air*, converting it into a sulphate. This salt is entirely involatile at ordinary temperature, but dissolves readily in water, thus presenting this important element of plant food in a most economical and available form. This function of plaster to reduce ammonia to a fixed forms, *renders it an important ingredient in composting manures*, provided the compost heap is not exposed to drenching rains."

M. Ville on Fertilizers.

On another page we have given an outline of the contents of a little work, by a French author, on the subject of fertilizers, which will doubtless attract very general attention; and we again refer to it, for the purpose of presenting specimens of the formulas of manures recommended by him suitable for crops now about being put in. It is to be regretted that the translator has not seen fit to perfect his work, by giving in the English language the weights, measures, currency, &c., of the original, since few persons who read it will wish to take the trouble of making the necessary calculations to understand, from the rules laid down by him, some of the main features it presents.

In a very correct and elegant rendering of the same work by a lady at the South, Miss Howard, daughter of Mr. Howard, of the Atlanta (Ga.) "Plantation," and which has been published in that journal, the necessity of the trouble alluded to is obviated by a reduction to our own standards of the weights, measures and values referred to by the author, and we therefore make use of her translation for our present purposes. The author says:

The greatest care is necessary in the employment of chemical manures, to secure the full measure of their power; they should be distributed as regularly as possible, immediately after the last ploughing. The operation resembles broadcast sowing, and is followed by a careful harrowing, which mixes the substances with the soil; a misty, and not windy, day is to be preferred; a strong wind is objectionable by causing the loss of part of the manure. When the spreading is performed by hand, it will be more uniform if the manure be mixed with its own volume of fine and dry earth; the mixture is first deposited on the ground, in the shape of small heaps regularly distributed. In large farms it is preferable to employ the excellent machines at our disposal for spreading pulverulent manures. A good distribution of manures is sufficient to increase the yield of the crop from three to four bushels the acre. When the winter is severe and protracted, wheat, and, in general, all gramineous plants, are very much enfeebled. By the use of 88 to 177 lbs. of sulphate of ammonia, or 132 to 221 lbs. of nitrate of soda, mixed with 177 lbs. plaster as a top-dressing at the beginning of March, we are enabled to change in a few days the sickly state of the plants, and to insure the crop. The effect of top-dressing with chemical manures is extraordinary. The latter part of March is the latest this top-dressing should be applied—if put on in April or May it hastens the vegetation so much that straw preponderates, and the grains are small and few.

The following are two selected formulas of manures adapted to systems of rotation of the principal crops. The prices of the chemicals subjoined are those prevalent in France:

Acid Phosphate of Lime....	$1.52	per 100 lbs.
Nitrate of Potash (Saltpetre)	5.89	"
Nitrate of Soda (S. Amer. Saltpetre).....	3.32	"
Sulphate of Ammonia.....	4.27	"
Sulphate of Lime (Plaster)..	19	"

FORMULÆ OF FERTILIZER.

Wheat.

Complete fertilizer No. 1, 1,066 pounds.

	Quantity per acre.	*Price.*
Acid Phosphate of Lime..	355 pounds.	$5.40
Nitrate of Potash.....	177 "	10.47
Sulphate of Ammonia....	223 "	9.46
Sulphate of Lime.....	311 "	69
Total.....	1,066 "	$26.02

Barley, Oats, Rye—Natural Meadow.

Complete Fertilizer No. 1, 533 pounds.

	Quantity per acre.	*Price.*
Acid Phosphate of Lime..	177 pounds.	$2.70
Nitrate of Potash.....	88 "	5.23
Sulphate of Ammonia....	113 "	4.77
Sulphate of Lime.....	155 "	29
Total.....	533 "	$12.99

The fertilizer may be used in two different ways for the meadow. Either by spreading all at once in the fall, or diving it in two parts; two hundred and sixty-six pounds for the fall, and two hundred and sixty-six pounds for the spring, after the first cutting.

When the chemical fertilizer is associated with barn-yard manure, these formula may be reduced by the half. The barn-yard manure having been ploughed in deep, the chemical fertilizer is spread on the surface after the last working.

Formulas for all other crops are furnished, but the above will suffice for our present purpose. The amount per acre in this country would be considered excessive, while the cost would be largely in advance of that given by the author.

Live Stock Department.

An Afternoon at Dunmore Farm.

Col. J. Stricker Jenkins, of this city, the commander of the well-known Fifth Regiment Maryland National Guard, notwithstanding that he is charged with the conduct of an old and widely extended business, still finds time from the demands of his counting room and his military duties, to pay close and enthusiastic attention to the breeding of Jersey Cattle and South-down Sheep, both of which he shows in great perfection, on his small but well cultivated farm of Dunmore, in Baltimore Co. We passed an afternoon of last month at this pleasant seat, where some gigantic chestnuts, lofty oaks and majestic tulip poplars give a venerable air to a scene, which, though only a half score of years ago an untamed wood, has now become, with judicious plantings of evergreen and deciduous trees, graceful and well constructed walks and drives, and a handsome and commodious mansion, surrounded by spacious verandas, the most charming place of refuge possible for a man of business, after the ardor of the day and the cares of an active life, to pass his quiet hours within hearing of the lowing herd and bleating flock, which, to ears attuned to rural sounds, make such attractive melody.

The Jerseys we found in the pastures and the stable bear evidence of the judgment and taste of Col. Jenkins' management, and are another confirmation of the statement we have had occasion more than once to make in these columns, that the vicinity of Baltimore is nowhere surpassed in the value and beauty of its herds of this breed of cattle. The herd at Dunmore has been in existence comparatively but a few years, and the idea with which its formation was commenced,—the combination of beauty and symmetry of form with high excellence for dairy products in its members, never, however, in the attempt to unite the two, sacrificing the latter for the former quality,—has produced very satisfactory results.

The bull *Fairfax*, 2 years old, is in color a fine dark fawn, running into black, with a masculine, well-set head, straight back, a flexible, mellow hide, and well shaped horns. He has the favorite black points, and transmits them all, so far, to his progeny. As a yearling, he took the first prize at our Maryland show of last year, having also at that of '70 carried off the honors as a calf.

Of the cows, *Minnie*, 8 years, yellow and white, is a very satisfactory specimen of the useful type of this race. Her long, deep body, remarkably wide and high reaching mirror, soft yellow creamy skin and capacious udder, are the external indications of an excellence she has been found by experience to possess—actual test having shown her butter capacity to be 12¼ lbs. per week when in her flush. She has never dropped any but bull calves, with the one exception of *Thyra*, a heifer of 18 months, very much like her dam in shape, but grayish fawn in color, with an elegant head, and giving every promise of making a superior cow. *Callisto*, 6 years, is a gray with some white patches, and for a Jersey, a large milker, her yield being 17 quarts a day when fresh.

All the other cows are imported. *Copia*, 5 years old, a self-colored, deep fawn, with full black points, mild, gentle eyes, fine, soft hair and mellow skin, the latter possessing that golden tint, so true a characteristic, as we believe, of a rich milker. She has a broad, well-marked milk mirror, a very handsome, blood-like head, and contests, in our view, with *Fides* the palm of excellence in the herd. Fides is 3 years old, a soft grayish fawn, with some white markings, a very mellow skin of rich creamy hue, a well placed and roomy udder, and a compact, neat form. She is a beautiful and excellent cow, and carried off the first prize for imported cows of all ages

at the Md. show of '71. *Bisma* is a well-shaped, dark fawn colored cow of 3 years; *Dortosa*, 3 years, is also of a dark shade of fawn, with the black points so general in this herd, and a good head, but not, in our opinion, as conspicuous as some of the others for beauty of form; *Dagmar*, we think, will make a very fine cow; she is 3 years old, light yellow and white, with a well marked escutcheon, and a good milker.

Questioning Col. Jenkins as to the confidence to be placed in Guenon's system of determining the milking qualities of cows by the development of the mirrors, we found that he is a full believer, so far as his own experience goes, in its correctness—actual trials from time to time in his herd having demonstrated that the excellence of the milkers was, as claimed, always in correspondence with the size and shape of the mirror.

Rosina 2d, *Leta*, and *Fides* 2d, are yearling heifers, all dropped about the same time, the last being out of Fides, noted above, by Mr. Wm. T. Walters' imported Hannibal, a description of whom was incidentally given in our June No. They are all neat shaped, promising animals. In a well shaded inclosure we found one heifer and three bull calves, all well marked and of solid colors. These will all, we believe, be sold, the limited size of the farm requiring the numbers in the herd to be kept down. It has already been reduced by recent sales. The calves at the age of one day are taken from their dams and taught to drink; they seem to be the playmates and pets of the children, and are as gentle and frolicsome as young kittens.

In ordinary seasons it is Col. Jenkins' practice to give the cows nothing but grass, but the poverty of the pastures this year requires some addition to what would otherwise be very short commons. The general result of several experiments shows that from the cows of this herd eight quarts of milk make one pound of butter—a very high average.

In the stable, the cows are confined by stanchions, which are believed to be more conducive to cleanliness as well as requiring less room for a given number of animals than any other plan of fastening, whilst the cows so secured seem to be comfortable and to do well.

We saw in a field near the barn a considerable flock of well-bred and very even South-down sheep. Both rams and ewes have been purchased from various sources for the purpose of securing the best crosses attainable, and some months ago, Col. Jenkins gave an order for the importation from England of a superior ram, which is now on his way, or ready for shipment, to this country. The Colonel seems to think he connot keep his flock up to the highest standard without resorting occasionally to other flocks for fresh blood, for the reason that when he receives an order for sheep from correspondents who do not see the animals, but leave their selection to him, he feels it incumbent upon him *to send the best he has!* This is reversing, perhaps, the general rule, but the practice is worthy of imitation.

With the South-down ram referred to, Col. J. is also about importing a ram and two ewes of the Oxford-downs, a breed which, so far as we know, has no exemplars in the flocks of Maryland or its vicinity. They are represented as being considerably larger than the South downs and more desirable for the shambles, giving also, for their size, a greater amount of fine, well flavored and not too fat mutton. We are glad to know that these sheep are to have a test of their merits in this latitude.

Of Col. Jenkins' handsome roadsters, our space does not allow us, as we would wish, to speak.

Stock Notes.

The two "Dutchess" heifers for which Mr. Cochrane, of Canada, paid 2,500 guineas in England, arrived at his farm, Hillhurst, Province of Quebec, where they produced two heifer calves, which, at less than a year old, he sold, together with another "Dutchess" bull calf, to Lord Dinsmore, of Scotland—the heifers at 2,500 guineas for the two, and 800 guineas for the bull. They were shipped to England a few months ago.

Mr. Alexander, of Kentucky, has sold two Short-horn heifers to an English purchaser for $13,000.

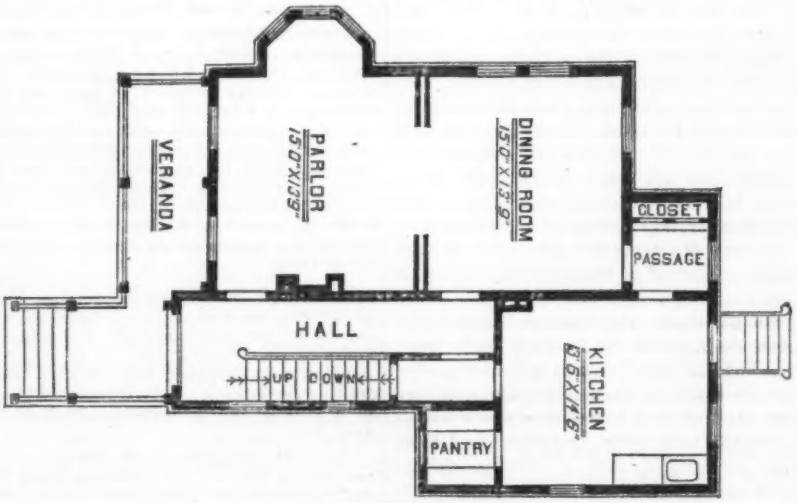
Mr. Joseph H. Rieman, Dumbarton Farm, Baltimore, has sold to Col. Turley, of Tennessee, the Jersey bull Sir Davy (84), 3 heifers, and also the yearling colt out of imported Arabian mare Saieda by Gov. Bowie's Stonewall Jackson, which were described in notes of a visit to that gentleman's place in our July No.

Col. J. S. Jenkins has sold the Jersey bull calf Orson 745, to Edwd. Jessop, York, Pa., and Southdowns to Rollins Lowndes, Charleston, S. C., and S. K. Dennis, Newtown, Md.

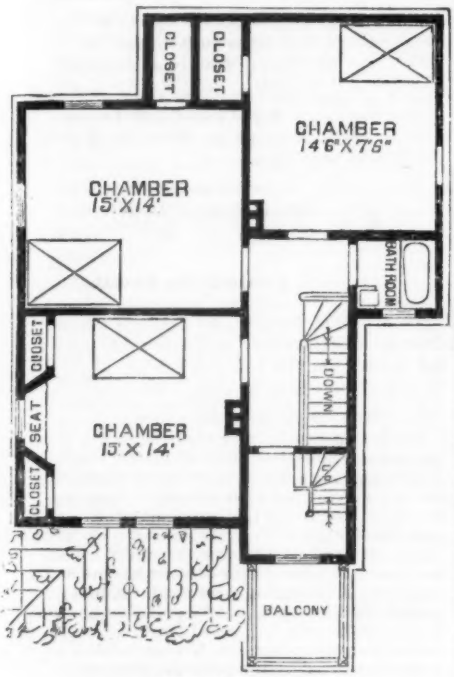
DESIGN FOR A COTTAGE.

FRONT ELEVATION.

We present our readers with a neat design of a pleasant and well arranged cottage, suitable for a suburban lot or a small country place. The first floor plan shows a parlor, with a handsome bay window, dining-room, kitchen, hall and pantry. An entrance porch and veranda add much to the comfort of the house, especially when adorned by climbing vines, as indicated in the elevation. On the second floor are three good-sized chambers, with ample closets and a bath-room. A stairway leads to the upper story of the tower, which is an effective feature of the design. The house is intended to be built of wood, but brick could be substituted. Its cost in the former would be from $2,500 to $4,000, according to the finish and the prices of labor and material in different localities. The drawings are made to a scale of one-twelfth of an inch to a foot, so that any intelligent builder can work from them. The style of the building is plain but attractive. The accommodation afforded for the cost is quite ample, and with some attention to the surroundings in the planting of appropriate trees and shrubbery, such a house could be made a very charming and home-like abode. The plan of the second floor is given on the next page.



FIRST FLOOR PLAN.



SECOND FLOOR PLAN.

Horticulture.

Planting and Treatment of Fruit Trees.

An "Amateur Orchardist" writes for information on fruit growing, but giving no data, and not naming the State in which he is located, we cannot do more than give general treatment under various circumstances, which will, perhaps, meet the requirements of this correspondent. If it does not, he will please write again, giving nature of soil and subsoil, and any other information he may think proper. First, in regard to apples, pears, &c.—Where the soil is loamy and deep, plant strong-growing varieties; give them room and let them grow; do not attempt to make dwarf bushes nor pyramids—you will succeed in growing nothing but wood and leaves to remove. If your locality be poor, light soil, with subsoil unfavorable to the production of fruit, plant dwarfs of all kinds, and plant a few each season so as to keep a stock of young trees. If your land be wet, plow it into lands of the width you wish to plant the trees; plow as many times as necessary, setting the ridge on the same place each time, and of course always plow in the same direction; this will cause the lands to lie very round and high at the centre—there plant your trees; make an outlet for the water at both ends of the orchard, or where convenient. Underdrain if you prefer, but we have some acquaintance with underdrains and tree roots.

As to varieties, you may find a list from the pen of one of the departmental writers of this periodical in the March No. Secure young, healthy, thrifty trees, with well ripened, short-jointed wood; never be persuaded into accepting hide-bound, half-starved, miserable looking scrubs as a gift, nor even with a premium attached. Pay a fair price; purchase of honorable men, and there is little danger but you will get satisfaction.

Here we would say a word to both buyer and seller. To the former we say, send in your orders to your nurseryman early enough, so that he may take them up at his convenience; pay for the roots as well as the heads of trees, and see that you get what you pay for; and to the latter we say, as you have no special use for the roots after you have sent away the plant, be kind enough to send entire plants; charge a price that will enable you to take up everything in a proper manner. Some readers will doubtless think this altogether unnecessary advice; it may be so, but we have some practical knowledge of the matter, and are free to say that we have heard a price offered for plants that would not have paid the rent of the land upon which they grew and the labor of properly taking them up. On the other hand, we have seen trees not only with the *toes* taken off, but a good portion of the foot also—both instances are a disgrace to the parties concerned.

Pruning.—Hang your pruning implements in the place most difficult of access, and lock the door at that; if you throw away the key the loss might possibly prove a gain. Take an interest in your trees; walk about amongst them in the spring; familiarize yourself with their habits of growth; wherever you see a bud pushing where a branch is not needed, take it out; if a branch is pushing ahead too fast, so as to interfere with the proper balance of the head, take out the point with the thumb nail. The indiscriminate cutting and maiming, yclept pruning, is one of the most deep-seated humbugs the arboriculturist has to fight. We have seen a fruit tree literally bearing itself to death, and the owner is recommended to prune the tree to cause it to form wood growth; would it not be more consistent to remove two-thirds of the blooms, to keep it clean, and to persuade it into wood growth by generous treatment? Again, we have frequently seen one branch of a tree take to growing out of all proportion to the remainder of the head, and after having its own way a considerable time it has been cut well back, and of course it started the terminal bud into growth strong as before. Our practice has demonstrated the fact to our satisfaction, that it is better to take out the point of such shoot, and if that be not check sufficient, to remove some of the foliage until it shows no disposition to appropriate more than its pro-

per share of growth. Nor do we believe that any mechanical operation whatever will change a wood bud into a fruit bud. Our experience in orchard and also in forest pruning has forced us to this conclusion.

We do not deem it necessary here to enter more minutely into the matter of pruning.

Cultivation.—If your soil is deep and loamy, inclining to be rather stiff than otherwise, you may, after your trees become established, seed it down to grass, or grow what you please; the trees will take care of themselves, but if the land is poor and leachy, with a cold, stiff subsoil, or of any other kind unfavorable to tree growth, it is much preferable to keep the surface clean and mellow. Cultivate often, but never deep; if you prefer mulching to cultivating, why then mulch, but do not neglect your fruit trees. Whichever system you may adopt, carry it out perfectly. The soil at a few inches depth may be cooler beneath sod than where the surface is clean and mellow, but is it more moist? Plants very frequently suffer from drouth much more so than from heat in the soil, hence we prefer clean cultivation. N. F. F.

Vegetable Garden—Work for Sept.

The remains of old crops should now be cleared away and the ground prepared for winter crops. *Cabbages.*—Late crops must be kept hoed. From the 10th to the 20th, in this latitude, seed is sown for early spring plants, which, when they have reached sufficient size, are to be set out in cold frames and kept over until the ground admits of their being put out in spring. The seed should be sown in good, light seed beds and rolled or beaten with the back of a spade to compress the earth in case of dry weather. The plan practiced by the market gardeners in this vicinity is to keep the plants hoed and thinned out until towards the end of October, when instead of putting them in cold frames, they are set out where they are to grow.—Ridges are made, in dry and very rich soil, running S. W. and N. E., so as to give a South-Eastern exposure, and on the sheltered side of these ridges from the cold North-Westerly winds the plants are set, low enough to be sheltered from the sweep of cold winds, but high enough upon the ridge to secure drainage from the roots of the plants. Furrows are made to draw off the water from the spaces between the ridges. In March the ridges are gradually levelled, so as to inure the plants to the wind, which frequently destroys many plants, if exposed to it, after they have passed safely through the winter. *Celery* is to be earthed up. This must be done only when the plants are dry, and the earth must not be allowed to get into the heart of the stalks. *Melons* may be turned so as to cause them to ripen evenly on both sides. *Onions* are to be harvested. They should be dried well in a cool place before storing.—*Radishes* of winter kinds may be sown. The Chinese Rose is the popular variety for this use. *Spinach* is to be sown from the 15th to 20th of the month, in drills 15 inches apart. Press the earth firmly about the seed, to prevent loss from hot suns. *Sprouts*, or Kale, sow as Spinach. *Turnips* may still be sown. Swedes or Ruta Bagas should be hoed and the ground kept light.

The Poultry Yard.

Breeding Poultry for Profit.

In a former number we gave an extract from an address before an English Agricultural Society, on the value of raising poultry, in a business point of view. We annex another extract from the same address:

I will now conclude by throwing out a few suggestions as to the best and easiest way of improving one's existing stock of fowls by the introduction of fresh blood. The cheapest and readiest way that would naturally present itself would be to introduce a cock bird of one of the best and most approved breeds to cross with some 6 or 8 of your largest and best hens at present in your yard. A 9 or 10 pound Brahma cock would probably be the best to cross with half-breed Dorking or full-bodied barn-door hens, or, if your stock is of a smaller breed, cross-bred Hamburghs, or half Spanish, a fine, spirited Houdan cock may be introduced with greater advantage.—In either case your breed of fowls reared from this cross will be considerably improved the following year, both as to size, strength of constitution, egg producing powers, and fattening propensities. Such a course, however, would be but a make-shift, and the better plan would be to clear out one's stock entirely, and commence *de novo*, by the introduction of entirely fresh stock, and that the very best that can be obtained. Either a few birds may be purchased of the several breeds desired to be kept, and the eggs set aside for hatching as they are laid, or a couple of sittings of eggs from some near breeder of known respectability may be purchased, and so a stock of the best birds may be procured at little cost. The following year these birds may be either crossed or kept pure, but in the case of allowing your birds to cross, it will be important to see that you allow but one cross, always breeding from the pure stock, and not from the eggs laid by the cross, or you at once commence to degenerate. A single cross judiciously done is rather beneficial than otherwise, as it almost invariably produces a profitable and precocious offspring with increased stamina and strength of constitution. The Brahma and Dorking, and the Houdan and Silver Hamburgh are both admirable crosses, and the Creve cock may also be made use of with great advantage, combining as this breed does great size with superb quality of flesh and

aptitude to fatten. If there is one point more important than another in keeping up your breed of fowls to the proper standard, it is the possession of a really good cock, of a strain wholly different from the breeds he is mated with; a sufficient importance is seldom attached to this essential requirement. Before concluding, I will make a few remarks with respect to ducks. Ducks are, under certain conditions, among the most profitable stock of the poultry yard. Those who possess plenty of marshy grounds can keep ducks at little or no cost, as they will, under these conditions, find their own living; but in places that do not afford these advantages, ducks are among the most ruinous and unprofitable creatures connected with the farm-yard managed as they commonly are. The Aylesbury people, who are perhaps the most successful duck breeders in the world, adopt a system that is almost unknown, certainly unpractised elsewhere. It is said that upwards of £20,000 is annually received in this district alone for the ducklings sent to the London market.—The system adopted by these breeders is to bring ducks into the London market at a season when none are to be obtained elsewhere, and they consequently obtain a monopoly and realize enormous prices. The Aylesbury breed commence to lay a month or six week earlier than any other breed, and these eggs, laid often in the depth of winter, are at once set under hens, and when hatched, the young are hastened to maturity with amazing rapidity. They are kept in a warm sheltered situation, and fed upon the most nourishing food, and never allowed access to water. Oatmeal and milk form their chief diet, and sometimes more stimulating food is added. These ducks grow, fatten, and feather with rapidity; in less than 8 weeks from the time they leave the shell they are in perfect feather and ready to send to market. In places where ducks have to depend on hand feeding for their living, they can only be kept profitably by bringing them rapidly to maturity and killing them before they take to the water or begin to lose their first feathers. With these few hints I beg to conclude, trusting that the remarks I have made may have met with your approval.

CHICKEN CHOLERA.—The symptoms of this disease are a high fever, feathers ruffled, the skin turns black, the eyes are closed, and the patient will not move unless driven.—Death usually takes place in about three hours. I have lost about 100 chickens this winter, besides turkeys, ducks and geese. I tried all the remedies I could hear of, but without effect, until the following came to my notice: Take corn-meal and shorts in equal parts, wet the compound, and mix with lime as strong as they will eat it. For turkeys, geese and ducks, corn soaked in lime water will effect a cure. —*Cor. Rural Am.*

Always keep a supply of lime or finely broken bone within convenient reach of your poultry.

The Dairy.

The Dairy Cow—Making Butter.

The following interesting letter was addressed by Mr. Thos. L. Abbis, of Conway, to Mr. Ellsworth, Chairman of the Committee on the Management of the Dairy, appointed by the State Board of Agriculture of Massachusetts:—

One of the first considerations of a newly organized family is to obtain and prepare for the keeping of one or more cows. It seems to be the main sinking fund to draw from for the support of a family, and at the present day, any overplus will command a fair price at the markets at any time.

So valuable a producing animal to the necessities and comforts of man as is the cow, is it not an intelligent inference that we should in the first place select a good one, and then keep it well?

Truly has it been said, that a good cow is a trustworthy machine; the better and more bountiful its supply of material to the full capacity of its machinery, the more bountiful and satisfactory the product realized.

As new milk weighs about two and a quarter pounds per quart, it is said to contain thirteen per cent. of digestible solid, or one-half as much as lean beef or mutton; allowing two thousand quarts to be the production of a cow per year, (which is not an extravagant allowance,) we find the milk product per year to be equal to the lean part of five cows.

Figures are said to be no liars, but they set forth some astonishing facts among cows, as well as among political rings.

Truly wonderful is the yearly production of a good cow well fed; many have been the instances of receipts of one hundred to one hundred and fifty dollars per annum, realized from single cows in Franklin county, and even small dairies from six to ten cows in the same ratio.

Many are the influences which will assist in producing the aforesaid realization. First a good cow, then warm stabling, or comfortable shelter, bedding will not be amiss, what good hay or grass she will eat, from two to six quarts of provender, corn and shorts, corn and oats, or some equivalent according to the capacity of the cow to bear, dealing very gently with her at milking as well as at all other times, regular hours for milking, never hurrying from pasture in summer, avoiding all excitement that will serve to irritate her system, and thereby affect the milk, a little salt pretty often, unless you choose to keep it by them all the time.

I strain about five pints of milk into medium sized pans, setting it on slats in as cool, dry and airy a place as I can furnish in warm weather, and in the upper part of warm rooms in cold weather.

I like to churn sweet cream the best, weigh

my butter as soon as taken from the churn, adding eight ounces of salt to seven pounds of butter in summer, and seven ounces of salt to eight pounds of butter in winter, as there will generally more saltness work out of butter in warm weather than in cold; usually stirring a little salt with the cream from time to time, when skimmed, pack my butter in eleven pound boxes, and send it to market.

In his "Practical Dairy Husbandry," Mr. Willard, in speaking of butter factories, says, "the milk room is constructed so that good ventilation is secured. It is provided with vats or tanks for holding water. These should be sunk in the earth in order to secure a lower or more even temperature of water as well as for convenience in handling the milk. The pools are about six feet wide, and from twelve to twenty-four feet long, arranged for a depth of eighteen inches of water. There should be a constant flow of water in and out of the vats or pools, so as to secure a uniform temperature of the milk after it has been divested of its animal heat. The milk is set in pails, eight inches in diameter by twenty inches in depth, each holding fifteen quarts of milk. As fast as the milk is delivered, the pails are filled to the depth of from sixteen to seventeen inches, and plunged in the water, care being taken that the water comes up even with or a little above the milk in the pails. The temperature of the water should be from 48° to 56°. A pool holding two thousand quarts of milk should have a sufficient flow of water to divest the milk of its animal heat in less than an hour. Good, pure milk, should keep sweet thirty-six hours when thus put in the vats, even in the hottest weather. When milk is kept thirty-six hours in the water, nearly all the cream will rise. The Orange Co. dairymen claim that it all rises in twenty-four hours. They say, too, that they get as much cream, by setting in pails on the above plan, as they can by setting the milk shallow in pans, and the cream is of better quality, because a smaller surface being exposed to the air, there is not that liability for the cream to get dry, which has a tendency to fleck the butter and injure its quality."

The same authority says that the nearer the temperature of the room can be kept at 60° the better; and that it should never be allowed to sink below 55°, or rise above 65°.

The Florist.

Floriculture, &c.—Sept., 1872.

By W. D. Brackenridge, Florist and Nurseryman, Govanstown, Baltimore county, Md.

During this month a thorough overhauling of all plant structures should take place, such as repairing broken glass, painting sashes and woodwork, both inside and out, that may stand in need of it, also whitewashing walls, and seeing well to it, that the heating apparatus is in a proper working condition; if for this purpose brick flues or earthen pipes are used, see and have these and the chimneys swept clean. We mention such things, not to enlighten the practical gardener so much as to give the novice a hint in time, as in more than one instance we have been called upon (after the frost had injured the collection) to explain why it was that the furnace would not draw, and in two of these we found the flues choked up with soot, a circumstance which two green gardeners never guessed at.

In the matter of cultivating plants, some people have more foresight than others, that is, by doing little things now, that save much labor about the time cold weather will compel them to get tender plants under cover; and the shrewd cultivator will readily conceive what these little things are, and act upon them.

All plants growing in the open ground and intended to decorate the conservatory during the winter should be taken up early, and after potting, placed in a plant pit or close, shady situation for a few days, or until they take root; many fine plants suffer by being allowed to remain out after cold nights set in.

All such seedlings as Calceolarias, Chinese Primroses, Cinefarias and Sweet Alyssum should be put in small pots and placed in a close frame, where they ought to be encouraged to grow rapidly, moving them into larger pots as they progress in size. Chrysanthemums and Stevias ought to be placed in the pots in which they are to bloom; give them about twice every week a good watering of liquid manure.

Should wet weather prevail, it is necessary to have plants whose pots were plunged in the ground raised or set on a level surface, so that the roots may not suffer from too much water, and before housing have the plants tied up neatly and the pots washed clean.

Flower Garden and Pleasure Grounds.

Planting of evergreens can be performed now with success, choosing a time when the weather proves moist and cool; during the transfer, care must be taken so as to prevent the roots becoming dried, and after filling in the earth well about the roots, leave a hollow around the neck, like a basin, so that a good soaking of water can be applied; then fill up with loose earth, which prevents evaporation and the surface from cracking. The majority of failures in the planting of evergreens may be attributed to two causes, and the first of these is planting over deep; in no case should they be placed more than two inches deeper than they stood in the nursery rows; and the second error made, is letting the roots become dry before planting. In all cases where the ground is poor, wide holes should be made, and good earth added, into which the roots may run freely; in work of this kind a little extra labor and care taken pays in the long run, as we frequently see time and money spent by people digging holes not larger than

a peck measure to receive the roots of a tree from four to five feet high—ninety-nine out of one hundred of all such are sure to die ere one year expires from time of planting.

We advise also transplanting bulbs of Lilies so soon as the flower stem becomes dry, and towards the end of the month Tulips and Hyacinths may be planted also; a compost of decayed sods, old cow manure and sand will suit all of them.

The majority of people are partial to such modest little gems as Double Primroses, Polyanthus and Daisies; we usually divide all of these at this season, and by giving them fresh, rich earth they will bloom beautifully in spring; a cool, partially shady place suits them best.

Do not cut the grass on the lawn very short during the fall, better leave a short nap on it, so as to protect the roots from severe frosts.

W. D. B.

DRIVE DULL CARE AWAY.—How few can resist the soothing influence of flowers. If the heart is oppressed with troubled thoughts, look on the bright flowers; attend to their wants, they will reward you and divert your sadness to a peaceful calm. Yes, they will smile on you. Love the flowers, they were given to us for our good. E. R.

TO RESTORE BROKEN BRANCHES.—Often our plants get broken and hang by a thread of bark. Raise the branch gently and place it in perfect contact to the original place; wind around and cross over a slip of adhesive plaster—cut about one-quarter of an inch wide. Press it neatly and closely to keep out the air. The heat of the hand will be sufficient to make it stick. E. R.

FUCHSIAS—The admiration of all, but their disappointment also, for they are eaten up by that invisible insect called the red spider, the leaves being covered underneath with dry, brown spots. By daily syringing, and once or twice a week sinking them under water, you can prevent the entire loss of leaves; syringe once a day thoroughly, and keep them in a shady situation. E. R.

Saving Corn Fodder.

As a rule, we cut off our corn when from a third to one-half the ears have become yellow and the re-plant is out of milk. We put 90 hills in a shock of 9 by 10 hills, which makes from 3 to 5 bundles of fodder. When dry enough we *pull it off the stalks, tie the fodder with white oak slips 5 feet long*, made of the but of a tree twice the size of the arm. Rive it from bark to heart, and split it by hand with the sap vessels, using a stout knife to start it. Tie the large end tightly and wrap and tie the other in it after passing it around the fodder.

We find the horses eat the fodder best alone, and the cattle the husks without the fodder and with less waste, or the fodder alone. We haul corn and fodder in as we pull it off, and as a rule, do not leave it out over night. I would suggest that the seed corn be saved before you cut off the corn or as it is pulled off. H. K.

Fair List, 1872.

STATE, DISTRICT, &C.

American Institute, N. Y.	Sept. 4-Oct 10
California, Sacramento	Sept. 19-28
Carolinas, Charlotte, N. C.	Oct. 22-26
Connecticut River Valley, Claremont, N H.	Sep. 17-19
Georgia, Atlanta	Oct. 14-17
Georgia Agricultural and Mechanical Association, Savannah	Dec. 2
Illinois, Ottawa	Sept. 16-21
Indiana, Indianapolis	Sept. 30-Oct. 5
Iowa, Cedar Rapids	Sept. 9-13
Kansas, Topeka	Sept. 16-20
Kentucky, Lexington	Sept. 9-13
Maine, Bangor	Sept. 20-24
Massachusetts Horticultural, Boston	Sept. 17-19
Maryland, Baltimore	Oct 8-11
Maryland Institute, Baltimore	Oct. 1-31
Michigan, Kalamazoo	Sept. 16-21
Macon, Ga	Oct. 23-26
Montana, Helena	Sept. 22-27
Minnesota, St. Paul	Sept. 17-20
Mississippi, Jackson	Nov. 11-16
Nebraska, Lincoln	Sept. 3-6
New England, Lowell, Mass.	Sept. 3-6
New Hampshire, Dover	Oct. 1-4
New York, Elmira	Sept. 30-Oct. 4
Ohio, Mansfield	Sept. 2-6
Oregon, Salem	Sept. 30-Oct. 5
Pennsylvania Horticultural, Philadelphia	Sept. 11-14
Pennsylvania, Erie	Sept. 17-20
St Louis Association, St. Louis, Mo.	Oct. 3-12
South Carolina, Columbia	Nov. 4—
Tennessee, Nashville	Oct. 7-12
Vermont, St. Johnsbury	Sept. 10-13
Virginia, Richmond	Oct. 29-Nov. 1
Virginia and North Carolina, Norfolk, Va.	Oct. 22—
West Virginia, Clarksburg	Sept. 17-20
West. Wool and Cotton Mfr's, Chicago	Aug. 6-9
Wisconsin, Milwaukee	Sept 23-27

COUNTY FAIRS, &C.—MARYLAND.

Alleghany, Cumberland	Oct 1-4
Carroll, Westminster	Sept. 30-Oct. 5
Frederick, Frederick	
Kent, Hainesville	Oct. 1-2
Montgomery, Rockville	
Washington, Hagerstown	Oct. 15-18

VIRGINIA.

Loudon, Leesburg	Sept. 2 5
S. W. Va., Wytheville	
Piedmont, Culpeper	Oct. 15

PENNSYLVANIA.

Adams, Gettysburg	Sept. 24-26

GREAT SALE OF HORSES.—The Middle Park stud of England belonging to Mr. Blenkiron, was sold on the 23d day of July, and the three following days, a great crowd being in attendance. Nearly 350 head of horses were sold, at an average of something over $1500 in gold, the aggregate of the sale amounting to above half a million of dollars. The highest price was brought by the Stallion Blair Athol, who was sold at the enormous figure of 12,500 guineas; of the other Stallions, Gladiateur and Breadalbane bought respectively 7000 and 6000 guineas. Saunterer and Mandrake, each 2100, and Victorious, 2000. Of the brood mares the highest price, 2500 guineas, was paid for Seclusion; another brought 1550, one each, 1500 and 1200, and four 1000 guineas each.

The Fireside.

[The following little waif has been handed us by a young mother, with a request to see it published in the *Farmer*.]

Only A Baby Small.

Only a baby small,
Dropped from the skies;
Only a laughing face,
Two sunny eyes:
Only two cherry lips,
One chubby nose:
Only two little hands,
Ten little toes.

Only a golden head,
Curly and soft:
Only a tongue that wags,
Loudly and oft;
Only a little brain,
Empty of thought:
Only a little heart,
Troubled with naught.

Only a tender flower,
Sent us to rear;
Only a life to love,
While we are here;
Only a baby small,
Never at rest:
Small, but how dear to us,
God knoweth best.

Washington's Election.

On a Tuesday morning, the 14th of April, 1789, a venerable old gentleman with fine eyes, an amiable countenance, and long white locks, rode into the lawn of Mount Vernon, coming from Alexandria. Two gentlemen of the latter town accompanied him. It was between ten and eleven o'clock. A negro man sallied out to take the nags, and the old gentleman, entering the mansion, was received by Mrs. Washington.

"Why, Mr. Thompson," said the good lady, "where are you from, and how are your people?"

"From New York, madam," answered the old man. "I come to Mount Vernon upon a good errand—for the country at least. The General has been elected President of the United States under the new constitution, and I am bearer of the happy tidings in a letter from John Langdon, President of the Senate."

The General was out visiting his farm, however, and the guests were entertained for two or three hours as we take care of our visitors in the country nowadays. A glass of the General's favorite Madeira, imported in the cases, was probably not the worst provision made for them, and the cheerful gossip of Mrs. Washington, who had known Mr. Thompson and visited his house in Philadelphia, helped to enliven the time. This grave and respected old man was the link between the new government at New York and the new magistrate at Mount Vernon. Chas. Thompson had been the Secretary, through all its eventful career, of the Continental Congress which had directed the cause of the colonies from desultory revolt to independence and union, and now he had ridden over the long and difficult roads to apprise the first President of the Republic of the wishes of his countrymen.

At one o'clock General Washington rode into the lawn of Mount Vernon, in appearance what Custis, his adopted son, has described. An old gentleman, riding alone, in plain drab clothes, broad brimmed white hat, a hickory switch in his hand, and carrying an umbrella with a long staff, which is attached to his saddle bow. The umbrella was used to shelter him from the sun, for his skin was tender and easily affected by its rays. Washington greeted Mr. Thompson with grave cordiality, as was his wont, inquiring for his family, and, divining already the object of his visit, broke the seal of John Langdon's official letter. Dinner followed, and, while the visitors retired to converse or stroll about the grounds, the President elect wrote a letter to the President of the Senate and sent it forthwith to the postoffice at Alexandria by a servant.

The letter was as follows:

"MT. VERNON, 14th April, 1789.

"SIR: I had the honor to receive your official communication, by the hand of Mr. Secretary Thompson, about 1 o'clock this day.—Having concluded to obey the important and flattering call of my country, and having been impressed with the idea of the expediency of my being with Congress at as early a period as possible, I propose to commence my journey on Thursday morning, which will be the day after to-morrow."

This done, the rest of the day passed in conferences between Washington and his wife, in the preparation of his baggage for the not unexpected journey, while, meantime, the distinguished guest was amused by the young official household in the library and grounds. There was another female dear to the newly elected President, and he kept her in filial remembrance at the very moment of his greatest promotion.

It was growing late in the evening of the day on which our chapter opens, when Washington mounted his horse, and followed by his man Billy, rode off into the woods of Virginia with speed. His destination was Fredericksburg, nearly forty miles away, with two ferries between—one at Occoquan, the other at the Rappahannock. His purpose was to see his old mother, now about eighty years of age and drawing near the grave. It had been long since he had visited her, but he could not feel equal to the responsibilities of his great office until he should receive her blessing.—Few candidates for the Presidency in our day would leave a warm mansion, filled with congratulating friends, to ride all night through the chilly April mists to say adieu to a very old woman.

But thus piously the administration of Washington began. He passed old Pohick church, of which he was a vestryman—soon to tumble to ruins—crossed the roaring Occoquan, and by its deep and picturesque gorge,

where passed the waters of the future bloody Bull Run, and by night he saw the old churches of Acquia and Potomac rise against the sky, and the decaying seaport of Dumfries. In the morning he was at Fredericksburg, and his mother was in his arms.—Marches, perils, victories, honors, power, surrendered in that helpless love, too deep for pride to show through its tears, and the President of the new State was to be a newborn babe again, no dearer, no greater.

He was just in time, for she had but the short season of summer to live, and, like many dying mothers, life seemed upeld, at four score and five, by waiting in love until he should come. History is ceremonious as to what passed between them, but the parting was solemn and touching, like the event. "You will see me no more," she said, "my great age and disease warn me that I shall not be long in this world. But go, George, to fulfill the destiny which Heaven appears to assign you. Go, my son, and may Heaven's and your mother's blessing be with you always."

Passing from that dear pathetic presence, the President elect, perhaps, did not hear the plaudits of the people in the streets of Fredericksburg. He rode all day by the road he had come, and reached Mount Vernon before evening, having exhibited his power of endurance at the age of fifty-seven, by riding 80 miles in 24 hours. His good wife had made all ready; the equipage and baggage were at the door the next morning, and, leaving Mrs. Washington and most of the household behind, he set out for New York, at 10 o'clock on Thursday, the 16th of April, accompanied by Thompson and Humphreys. The new State was waiting anxiously for its magistrate. —*Geo. Alfred Townsend, in Chicago Tribune.*

DOMESTIC RECIPES.

SWEET PICKLED WATERMELON RHIND.—Prepare the rhind as if for preserving, by removing the green and the red, and lay in weak alum water over night. The next morning take out and put in a kettle with plenty of water, and let boil till the rhind is clear. Then take for every two pounds of rhind one pound sugar, half a pint of vinegar, a dessert-spoon of cloves, a few blades of mace and a little stick cinnamon, and put in a kettle together on the fire; as soon as it comes to a boil, add the rhind, and boil till it is tender.

WHITE CUCUMBER SAUCE.—Take 8 cucumbers; pare and slice them with an onion; season with pepper and salt; add as much water as will stew them till tender. Then toss them in butter; thicken with flour.—Make it as thick as you can without burning it; strain, and pour boiling hot on chicken, veal or rabbit.

CHILI SAUCE.—Take four dozen large tomatoes (skinned,) 10 green peppers (without seed,) 12 white onions, 8 tablespoons of salt, 12 tablespoons of brown sugar, 4 coffee cup of good vinegar. Chap all together fine an boil 2½ hours. Just before taking off the fir add 5 ounces celery seed. Bottle, cork an seal for winter use. It is very nice with oy ters instead of tomato catsup.

PLUM MARMALADE.—Simmer the plums in water until they become soft, and then strain them and pass the pulp through a sieve. Put in a pan over a slow fire, together with an equal quantity of powdered loaf sugar; mix the whole well together, and let it simmer for some time until it becomes of the proper consistence. Then pour it into jelly pots, and cover the surface with powdered loaf sugar.

BAKED BREAD PUDDING.—Cut in thin slices a small loaf of bread. Boil one pint of milk; put in the bread; beat up fine; add five eggs, ½ pound sugar, ½ pound butter, spice, &c. Bake it through.

BALTIMORE MARKETS, Aug. 22

Breadstuffs—Flour.—Market dull. Howard-st. Super $4.50a6; do. common to fair Extra $6 25a7; do. good to choice do. $7 25a8; do. Family $8 50a10. Ohio and Indiana Super $4.25a6; do. good to fair Extra $6.25a7; do. good to choice do. $7.25a8; do. Family $8 50a9.75. City Mills Super $5a6; do. standard Extra $7.50a8.50; do. Rio brands $9a9.25; City fancy brands $11.50a12. Rye flour $4a5. Corn Flour $3.50.

Wheat.—Market dull. Southern white 155a175 cents; amber 168a175 cts.; Western red 140a155 cts; Southern red 140a175 cts.

Corn.—Market for Southern, steady; for Western, dull. Southern yellow 64a65 cts.; white 67a69 cts; Western white 62a64 cts. *Oats*—Dull. Southern 38a40 cts.; Western mixed 40 cts. *Rye.*—Southern 75a80 cts.

Cotton.—Market firm. Middling Upland 21¼ cts; low middling 20¼ cts.; middling 22 cts; good ordinary 19¼ cts; ordinary 18 cts.

Hay and Straw.—Old crop Hay $34a36 for prime; new crop $35 for Maryland Timothy; $28a32 for mixed; and $26 for Clover. Rye Straw $23a24. Wheat Straw $12a14.

Mill Feed.—Brownstuff, City Mills, 18a20 cts.; Middlings, light, 28a30 cts.; heavy 45a50 cts.; Western Brownstuff $20a21 per ton.

Rice.—Carolina 9 cts.; Rangoon 7¼ cts; Patna 8¼ cts

Salt.—Ground Alum $1.60 per sack; Fine $2.40a2 50 per sack; Turks Island 40a45 cts per bushel.

Live Stock—Beef Cattle.—Market pretty active. We quote best on sale 6a6¼ cts.; generally rated first quality 4¼a6 cts.; medium and fair quality 3¼a4¼ cts. Most sales at 4a5¼ cts. *Hogs.*—Receipts lighter. Corn fed bring 6¾a7¼ cts.; still fed 6¼a7¼ cts., net. *Sheep.*—Receipts falling off. Fair to good Sheep we quote at 4½ a5 cts.; good to extra 5a5¾ cts., gross. Lambs $2a3 50. Stock Sheep $2a3.50 per head, according to quality and size.

Molasses.—Muscovado 30a32 cts; Porto Rico 35a55 cts *Syrups.*—Canton Sugar House, in hhds., 17, in bbls., 20 cts.; Calvert 50a55 cts.; Maryland 45 cts.; Baltimore 30a 35 cts.

Provisions.—Bulk, Shoulder, 7¼ cts.; rib Sides 9½ cts.; clear rib Sides 10 cts. Bacon Shoulders 8¾ cts.; rib sides 10¾ cts.; clear rib Sides 11 cts. Mess Pork $15.—Hams 18 cts. Lard 10a10¼ cts.

Seeds.—Timothy $3.25a3.50; Clover $6.50; Orchard Grass $2.50; Herds Grass $1.50; Kentucky Blue Grass $2.50.

Tobacco.—Receipts large, with a brisk demand. Prices fully maintained. We quote: Maryland, frosted, $6a 6.50; sound common $7a7.50; middling $9a10.50; good to fine brown $11a13; fancy $14a20; upper country $7a25.—Virginia—common lugs, $7.50a8.25; good lugs $8 50, common leaf, $9a9.75; medium leaf $10a10.75; good to fine leaf $11a12; Selections $12.50a14.50.

Whiskey.—Western 94a95 cts.

NEW ADVERTISEMENTS.

W. L. Buckingham—"Farmer's Favorite" Grain Drill.
Coe's Original Ammoniated Bone Phosphate.
Doctor Bates—Manufacturer of Tonic Beer.
Joshua Horner, Jr.—Maryland Super-Phosphate, &c.
Croft & Phillips—The American Land & Law Advisor.
John R. Cox & Pope—Fish Guano.
Ellwanger & Barry—Trees, Plants, Roots, &c.
John Saul—Nurseryman.
James Vick—Bulb Catalogue for 1872.
Wm. T. Walters—Sale of Percheron Horses.
J. Stricker Jenkins—Jersey Cattle and Southdowns.
W. Grange—German Potash Salts.
American Farmer—Bone Mills for Sale.
J. F. Reybold—Southdown Ewes and Ewe Lambs.
Dr. T. J. Woolridge—Essex Pigs and Fowls.
Miss M.—Situation as Teacher.
A. H. W.—Small Place Wanted.
Maryland Institute Fair—Baltimore, Md.
R. & W. H. Cathcart—Averill Chemical Paint.
Smith, Clark & Powell—Syracuse Nurseries.
Chas. L. Oudesluys—Potash Salts.

SALE OF PERCHERON HORSES.

The undersigned will offer at public sale at the *Pimlico Fair Grounds*, near Baltimore,

On FRIDAY, Oct. 11th,

that being the last day of the Show of the Maryland State Agricultural Society, from

15 to 20 head of PERCHERON HORSES,

of both sexes, Imported, or the produce of Imported animals, all pure-bred.

WM. T. WALTERS,
Baltimore, Md.

For catalogues, which will be ready Sept. 15, address as above, or the Editors of *The American Farmer*, Baltimore, Md. sep-2t

IMPORTANT.

Paint! Paint! Paint!

THE

AVERILL CHEMICAL PAINT!

Which, for DURABILITY, BEAUTY and ECONOMY, is unsurpassed by any other PAINT MANUFACTURED, and is already mixed for use, of all the different shades of color to suit the taste, and is equally good for wood, stone or iron, and will not crack nor chalk off by friction, and will preserve its color twice as long as the best Lead Paint. It is sold only by the gallon, and one gallon will cover twenty square yards of smooth surface.

☞ Send for Circulars.

R. & W. H. CATHCART,
SOLE AGENTS,
113 Thames Street,
sept-6t **BALTIMORE, Md.**

Maryland Institute Fair

FOR 1872.

Will open at the spacious HALL of the INSTITUTE, in the City of Baltimore,

ON THE 1st OF OCTOBER,

And Continue till October 31.

Articles for Exhibition will be received from MONDAY, September 23d, to SATURDAY, 28th, inclusive.

As the Board of Managers desire to make this Exhibition a striking one in the history of the Institute, every inducement will be offered for the reception and practical working of Operating Machinery, and the exhibiting of all articles of merit or utility in every class of the useful and fine arts.

Gold, Silver and Bronze Medals will be awarded as First Premiums in the several classes for articles of superior merit in design or execution. In addition to which a GOLD MEDAL OF HONOR will be awarded to the Inventor of a Machine or Discoverer of a Process which shall be adjudged so important in its use or application as to supplant every article previously used for the same purpose, in some branch of the useful arts.

Steam Power, Shafting and Belting will be furnished free of charge, and Tables, Cases, &c., also free, as far as possible.

Pamphlets, containing Circular, Rules, Regulations and all necessary information, will be furnished on application to the Chairman or any member of the Committee, and at the Institute Hall.

C. W. BENTLEY, Chairman.
SAM'L. A. EWALT,
C. LEWIS DUNLAP,
T. P. PERINE,
THOS. C BASSHOR,
JAMES PENTLAND,
CARROLL SPENCE,
R. K. MARTIN,
GEO. H. PAGELS,
} Committee.

P. S.—Among the novelties which will be on exhibition will be found the most improved *Steam Engines*, also *Cotton Gins* of the latest invention, and other machinery of peculiar interest to Southern Planters and Mechanics; alongside of the newest inventions for manufacturing *Shoes*, the old time cobbler will be seen "sticking to his last"—and with the operation of the newly invented *Knitting Machine*, a lady of the olden regime will be at hand to show how things were done in the ancient time in this department of household labor. Many such novelties will be displayed, that cannot fail to attract unusual interest to this Fair. sept-1t

PURE BRED
Southdown Ewes and Ewe Lambs
FOR SALE

at reasonable prices. Bred direct from late importations of Samuel Thorne and J. O. Sheldon, N. Y. State.

J. F. REYBOLD,
sep-tf St. George's, Del.

WANTED

In Northern Maryland or Southern Pennsylvania, a SMALL PLACE to rent or purchase, in a good location for a Wagon Maker and Blacksmith. Possession to be given the first of January, 1873, or before. Any person having such a place may dispose of it by sending a description, location and terms to A. H. W., Greensboro', Caroline Co., Md. 1t

CHOICE FOWLS.

The advertiser has for sale DARK BRAHMAS, LIGHT BRAHMAS, BUFF COCHINS, PARTRIDGE COCHINS, WHITE LEGHORNS, and HOUDANS, at $4 per Pair or $6 per Trio. We Insure Fowls to reach the purchaser in good condition. Address

ISAAC LYNDE,
aug-3t Marlboro, Stark Co., Ohio.

TREES,

PLANTS AND BULBOUS ROOTS

For AUTUMN of 1872.

Ellwanger & Barry offer to *Planters and Dealers* the largest and most complete stock in the country of

Standard and Dwarf Fruit Trees,
Grape Vines, Small Fruits,
Ornamental Trees, Shrubs, Evergreens,
New and Rare Fruit and Ornamental Trees,
New and Rare Green and Hot-House Plants,
Bulbous Flowering Roots.

Small parcels forwarded by mail when desired. Prompt attention to all inquiries.

Descriptive and Illustrated Priced Catalogues sent prepaid on receipt of stamps, as follows:

No. 1—Fruits, 10c. No. 2—Ornamental Trees, 10c. No. 3—Greenhouse, 10c. No. 4—Wholesale, (Just published,) Free. No. 5—Bulbs, Free. Address,

Establ'd 1840. **ELLWANGER & BARRY,**

sep-2t *Mount Hope Nurseries*, **Rochester, N. Y.**

SAUL'S NURSERIES

Washington City, D. C.

The undersigned calls the attention of Planters to those fine NEW EARLY PEACHES—Early Beatrice, Early Louise and Early Rivers—earlier than Hale's.

Fruit Trees.

An extensive stock of well grown Trees—Pear, Apple, Cherry, Apricots, Plums, &c. Also, Grape Vines, Small Fruits, &c.

Dutch Bulbous Roots.

Our importations are expected early in September, direct from the most eminent growers in Holland, who have supplied us the past twenty years. They can be relied on as of the very finest quality.

Plant Department.

New and rare Green-House Plants—a large collection suitable for Florists, Amateurs, &c., either for cultivation in Parlor, Green-House, Forcing-House, &c. ROSES—a large stock of the newest and rarest varieties, all at the lowest rates.

☞ Catalogues mailed to applicants.

JOHN SAUL,

sep-2t WASHINGTON CITY, D. C.

Containing Descriptions of **Hyacinths, Tulips, Crocuses, Lilies** and other hardy Bulbs for Fall Planting in the Garden, and for House Culture. Full instructions for Planting, Treatment, &c. Thirty-two pages, nicely illustrated. Sent free to all who apply. Address,

sep-2t **JAMES VICK,** *Rochester, N. Y.*

SYRACUSE NURSERIES.

700 ACRES.

Pear, Plum and Apple Trees

IN LARGE SUPPLY.

ALSO,

ARBOR VITÆ PLANTS FOR HEDGING.

A general stock of Nursery Products. Special inducements offered to Dealers. Call or inquire of

SMITH, CLARK & POWELL.

SYRACUSE, N. Y., Aug. 21, 1872. sept 2t

CHOICE JERSEY CATTLE,

Bred from Imported and Herd Register Animals. CALVES, YEARLINGS and COWS—some full, solid color, with black points.

Pure bred Southdowns,

SPRING LAMBS, EWES (two to four years old), from $15 to $25 apiece.

DUNMORE FARM,
Frederick Road, near Catonsville, Balto Co.
Address,

J. STRICKER JENKINS,

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GERMAN POTASH SALTS.

(KAINIT.)

W. Grange, the oldest importer of this important Agricultural Fertilizing agent, continues to receive orders for direct importations, at rates incomparably below usual prices. For circulars containing analyses and all particulars, apply to W. GRANGE, 103 WEST LOMBARD ST., Baltimore, Md. Personal attendance from 1 to 2 o'clock. sep-tf

POTASH FERTILIZERS

The only Substitute for Wood Ashes.

The undersigned has imported from Stanfurth, Prussia, a supply of KAINIT or SULPHATE OF POTASH. MAGNESIA, &c.; also MURIATE OF POTASH. *As all* soils require this ingredient, this is the cheapest form to obtain it

Also, 1500 TONS BAKER'S and JARVIS ISLAND PACIFIC PHOSPHATIC GUANO—very cheap.

CHARLES L. OUDESLUYS,

sep-1t 67 EXCHANGE PLACE.

ESSEX PIGS.

FOR SALE pure ESSEX PIGS, of different ages and not akin, bred from stock of recent importations from England and Canada. Also,

LIGHT BRAHMA FOWLS,

(a specialty,) and **Aylesbury DUCKS,** from the purest strains in this country.

Terms very reasonable. Apply to

DR. T. J. WOOLDRIDGE,

sep-tf *French Hay P. O., Hanover Co., Va.*

A LADY of rare qualifications wishes a situation as TEACHER in a Private Family; has had considerable experience. Address MISS M., care of *American Farmer*, 9 North Street, Baltimore, Md. 1t*

"EXCELSIOR"

No. 1 PERUVIAN GUANO AND SOLUBLE PHOSPHATE.

BALTIMORE, July 19, 1872.

RESULT

Of Analysis of a sample of J. J. Turner & Co 's "Excelsior" presented to me:

Moisture (det. at 100° C).....	13.20
Organic and Volatile Matter	43 04
Capable of producing of Ammonia.....	6.37
Inorganic Earthy Matter.	43.76
	100.00
Containing of Soluble Phosphoric Acid.....	9.70
" Insoluble " "	7.64
Or Soluble Bone Phosphate of Lime.....	21.18
And Undecomposed Bone Phosphate of Lime.....	16.68

(Signed) G. A LIEBIG, Ph. D.

BALTIMORE, July 22, 1872.

To the Farmers of Maryland and Virginia.

At the solicitation of some of our patrons, we had a sample drawn by a disinterested party from a number of bags of Excelsior from different parts of our present stock (some 12,000 bags, in warehouse, and representing our manufacture for 1872) and sent to Dr. G. A. Liebig, Chemist, of this city, who stands at the head of his profession in this country as an Analytical Chemist, and annex his report of its analysis, which, upon examination, will be found to conform in every particular to our assertions and representations by advertisements, during the past *fourteen years*, and will convince the intelligent farmer that "Excelsior" is the most uniform and concentrated fertiliser offered for sale. *Its quality cannot be improved*, and it is, as its name indicates, "*superior to all.*" To improve its mechanical condition we have, at great expense, introduced, this year, into our works, ingeniously constructed machinery for removing the quartz, stone and other extraneous matter from the Peruvian Guano, as imported and used in its preparation, and by its aid now prepare "Excelsior" in *fine, dry powder*, that it may be regularly drilled in any quantity, however small, per acre—a great saving to the farmer in the cost of his fertiliser, and insuring a regular and uniform growth of wheat.

In returning thanks for the liberal patronage extended to us in the past, we assure our friends and customers that we will spare no efforts to merit a continuance for the future.

J. J. TURNER & CO.,
aug-2t 42 W. PRATT STREET.

BONE MILLS

For Sale.

A Set of No. 1 and No. 2 BAUGH'S PATENT SECTIONAL BONE MILLS, but little used, with Counter Shafting, Belting, Sifter and Elevator, with Cast-Iron Buckets, for sale low. Apply at this Office. sep-tf

William Harris,

GUNS AND PISTOLS,
With large assortment of
SPORTSMENS' GOODS.
Guns neatly Stocked and Repaired at
No. 116 PRATT STREET,
One door from South st., [aug-6t] BALTIMORE, MD.

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The Oldest, the Largest and the BEST BUSINESS COLLEGE in America.
Upwards of 300 Students in daily attendance from the Middle and Southern States alone.
Our Illustrated College Journal, with Beautifully Flourished Eagle, sent by mail free of Charge.
ADDRESS—E. K. LOSIER, President, Baltimore, Md.
PROF. J. M. PHILLIPS,
aug-3t Supt. of Actual Business Dept.

FOR SALE OR EXCHANGE.

Two of the most desirable places in Central Georgia—both contiguous, and situated in Greene county, midway, between Augusta and Atlantic, on the Georgia Railroad—one containing 1680 acres, the other 1350 acres. Good improvements, good orchards, good water and plenty of it—convenient to churches, good schools and colleges, good society, and the best of markets for every thing. Perfectly healthy at all seasons of the year. Being desirous of living a few years in a locality where a system of high culture and improved husbandry is practised in order to afford my boys an opportunity of attaining a practical knowledge of farming proper, I hereby present a good opportunity for an advantageous exchange or purchase. For further particulars apply to
SAM'L. SANDS & SON, BALTIMORE,
or DR. THOMAS P. JANES,
aug.2t *Penfield, Greene Co, Georgia.*

FRUIT TREES for Fall Planting.

We offer an unusually large and fine assortment for the coming season. Parties contemplating planting are requested to send for priced list.
EDWD. J. EVANS & CO.,
jy-6t. Nurserymen and Seedsmen, York, Pa.

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ANALYTICAL AND CONSULTING CHEMIST, offers his services for the examination of FERTILIZERS, and FERTILIZING MATERIALS, ORES, MINERALS, and MINERAL WATERS. With an experience of sixteen years, part of which was in Europe, under Baron Liebig, he can guarantee accurate results. Facilities are offered to young gentlemen desiring to acquire a Chemical education equal to that of any European school.
Laboratory No. 30 Second street, Baltimore, Md.

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FOR SALE.

Having largely increased my herd by recent purchases and importations, I am now prepared to fill orders for SHORTHORNS of either sex. I am now using in my Herd the "Bates" Bull "Sixth Earl of Oxford" 9984; the pure Booth Bull "Royal Briton" (27,351); the Booth Bull "Lord Abraham" 11,223; the Princess Bull Lord Mayor 6,969. This gives me a combination of the best SHORTHORN blood in the world. I have Calves the get of Fourth Duke of Geneva 7,931; Plantagenet 8,795 Salamander 9,046, &c., &c., &c.

I also breed BERKSHIRE PIGS, and have some very superior young Pigs for sale. I can ship animals to any part of the country with ease, as my farm is on the Washington Branch of the Baltimore and Ohio Railroad, 15 miles from Washington and 25 miles from Baltimore, and all way trains stop directly at my place.

Royal Briton will serve a few cows other than my own at $250 each—no charge for keep. I shall be pleased to show the stock to all persons interested. Send for catalogue to

CHAS. E. COFFIN,
Muirkirk, Prince George's co., Md.

LORD ABRAHAM 11,223

FOR SALE.

I will sell the above BULL. He is Roan, calved April 25th, 1869. Bred by Mr. Torr, Aylesby Manor, England, and has four pure Booth crosses on a Usurer foundation. A sure getter, quick feeder, good handler, and with short fine-boned legs. Price $1.500. Won five first premiums in 1871, in Maryland and Virginia.

my-12t CHAS. E. COFFIN.

Patterson Devons.

As owner of the justly celebrated Devon Herd of the late GEORGE PATTERSON, deceased, I am now breeding and have for sale

YOUNG DEVONS

from eight months to two years and a half old. Prices from seventy-five to one hundred and twenty-five dollars each, according to age, choice, &c.

For further information apply to SAML. SANDS & SON, *American Farmer* office, or address,

S. T. C. BROWN,
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CAREFULLY-BRED JERSEY and AYRSHIRE COWS, HEIFER and BULL CALVES,

For sale by L. E. RICE,
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TREES, Bulbs, Hedge Plants, Seeds, Fruit and Flower Plates. 4 Catalogues, 20 cts. F. K. PHŒNIX, Bloomington Nursery, Ill.

Fancy Poultry.

Light and Dark BRAHMAS, Black B. Red GAMES and DOMINIQUES. Also, AYLESBURY DUCKS. Strains undoubted and purity guaranteed.

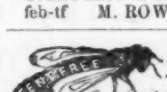
Address, W. H. RICHARDSON,
Mount Washington,
Baltimore county,
feb-tf Maryland.

HOUDAN FOWLS AND EGGS.

FOR SALE, a few pairs or trios of Pure Bred HOUDAN FOWLS, at $10.00 per pair or $13 50 per trio. Also, EGGS at $3.00 per dozen, boxed and delivered to Express Office.

Refer to Editors American Farmer, who have some of my birds.

Orders filled in turn for Eggs. Address
feb-tf M. ROWE, Harper's Ferry, W. Va.



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Italian Queens.

HIVES, BEE-FEEDERS, &c.

Send for Circular.
feb-1y E. J. PECK, Linden, N. J.

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FOR THE PURCHASE OF

Guanos, Fertilizers, Chemicals for making same, Improved Live Stock, Agricultural Implements and Machinery, Fruit and Ornamental Trees, Seeds, &c.

Carried on strictly as an Agency, and purchases made in most cases without charge to buyer.

Terms—CASH, or its equivalent. See, for particulars, large advertisement in July number of the *American Farmer*.

SAML. SANDS & SON,
Office American Farmer, No. 9 North st.,
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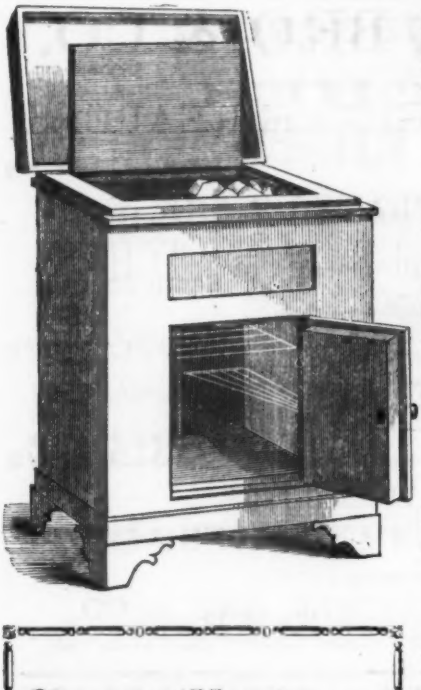
THOROUGH-BRED AND TROTTING HORSES AND Short-Horn Cattle.

We are breeding and have for sale stock of the above description, and invite purchasers to communicate with us.

J. N. & J. D. BETHUNE, Elway Stock Farm,
ap-tf *NEAR WARRENTON, FAUQUIER CO., VA.*



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Importers of CHINA, GLASS, TABLE CUTLERY, FAMILY HARDWARE, PLATED GOODS, and Dealers in TIN, WOODEN and JAPANNED WARE and KITCHEN FURNITURE of every character.

WATER COOLERS of our own make. ICE-CREAM FREEZERS of the most approved kinds. PATENT ICE PITCHERS, all qualities, and each warranted to be as represented.

New and Beautiful Patterns of

ENGLISH, FRENCH AND AMERICAN

TABLE GLASSWARE.

WHISKEY, BRANDY AND WINE DECANTERS,

SINGLY AND IN SETTS.

BOWLS, DISHES, CELERY STANDS, &c.

Our arrangements made in person with the leading manufacturers in Europe and this country, and having resident agents in France and England, give us every advantage in obtaining our supplies; manufacturing the common class of goods, such as

TIN AND JAPANNED WARE;

Buying entirely for cash; with a thorough knowledge of the business in all its details; purchasers may rest assured that we can and will supply their wants as favorably and upon as good terms as any house in New York or elsewhere.

We respectfully solicit a visit and an examination of goods and prices. ap-1y

Owners and Manufacturers

OF THE

New Iceland Refrigerator.

RHODES' STANDARD FERTILIZERS.

RHOD S' SUPER PHOSPHATE,

The Oldest and Longest Established STANDARD MANURE,

Packed in Strong Bags, 200 lbs. each, 10 to the Ton, $45 per Ton, Cash, in Baltimore.

SOLUBLE AMMONIATED SOUTH SEA GUANO.

Packed in Heavy Bags, 182 lbs. each, 11 to the Ton, $50 per Ton, Cash, in Baltimore.

ORCHILLA GUANO, AA, A TRUE BIRD GUANO,

Rich in Phosphates and Alkaline Salts. This Guano being sold at a very moderate price, enables Farmers to use liberally—say 300 to 500 pounds per acre, *high Manuring on fewer acres* being the most desirable mode of culture under our changed system of labor. Packed in Good Bags, 167 lbs. each, 12 to the Ton, $30 per Ton, Cash, in Balto.

ANALOGY BETWEEN ORCHILLA GUANO AND WHEAT.

The Analysis of the ash of Wheat and Straw shows:		ORCHILLA GUANO contains:	
Phosphate of Magnesia	12.63	Phosphate of Magnesia	11.57
Phosphate of Lime	49.31	Phosphate of Lime over	55.00

B. M. RHODES & CO.,

aug-2t OFFICE 82 SOUTH STREET, (below Corn Exchange,) BALTIMORE.

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HIGHEST PREMIUM

Elastic Stitch

Shuttle Stitch

SEWING MACHINES

The Very Best in Use.

GROVER & BAKER'S

IMPROVED ELASTIC-STITCH

SEWING MACHINES.

They Stitch, Hem, Fell, Cord, Braid, Bind, Quilt, Puff, Gather and Sew on, Ruffle, Embroider, Fringe, and excel in every style of Machine Sewing. Investigate, Test, Inquire, Compare, Examine, Prove the Merits of each

Sewing Machine in the Market,

Then apply all possible Tests to the

GROVER & BAKER,

And their Superiority will be apparent.

IMPROVED SHUTTLE-STITCH

SEWING MACHINES.

Are FIRST-CLASS in every respect, and made in the most durable and substantial manner and furnished at a LOW PRICE.

Wherever they have been introduced they have been PREFERRED to all MACHINES of other Manufactures making the same stitch.

Try the ease and rapidity of motion. Apply the Machines to varieties of Sewing. Their capacity is without limit.

ACCURATE, PERFECT, AND BEAUTIFUL IN PRINCIPLE.

Examine Their Simple Mechanism.

The Grover & Baker Sewing Machine Co. are the only Company that afford the Purchaser a Choice of Stitch. They make Two Distinct Machines, "Elastic" and "Lock-Stitch."

SALESROOMS,

No. 17 North Charles Street, Baltimore.

ap-1y

Try Dugdale's Fertilizers.

Pure Articles!

Low Prices!

Liberal Terms!

Fair Dealing!

DUGDALE'S WHEAT FERTILIZER!

A SPECIFIC FOR THE WHEAT CROP.

MADE FROM

Dissolved Bones, Peruvian Guano and Potash.

GUARANTEED ANALYSIS.

Ammonia,	4.85
Soluble Bone Phosphate,	17.33
Bone Phosphate,	2.31
Potash,	7.55

Dry and Fine for Drilling. Packed in Bags 200 lbs. each.

PRICE IN BALTIMORE,

$58 per ton.

EXCELLENZA SOLUBLE PHOSPHATE.

ALWAYS RELIABLE! GOOD FOR ALL CROPS!

GUARANTEED ANALYSIS.

Ammonia,	2.65
Soluble Bone Phosphate,	23.60
Bone Phosphate,	2.01

Packed in Bags 200 lbs. each. In Good Order for Drilling.

Price in Baltimore $50 per ton.

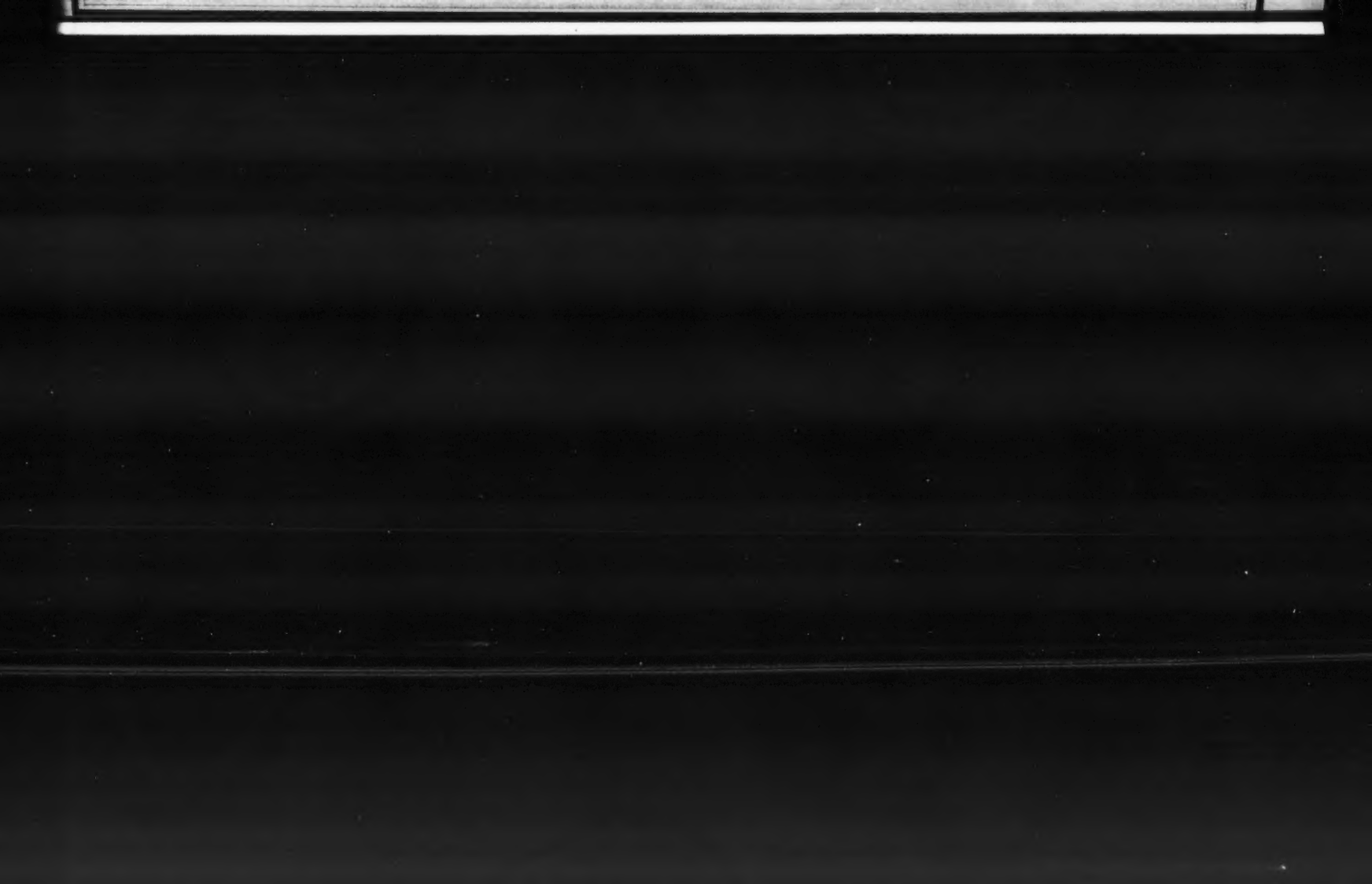
BAUGH'S RAW BONE PHOSPHATE,

THE OLD ESTABLISHED FERTILIZER.

PURE GROUND RAW BONE, BONE MEAL, WESTERN BONE DUST, and a general assortment of reliable FERTILIZERS, at Lowest Factory Rates. Very liberal offer to dealers.

GEORGE DUGDALE & CO.,

aug-2t 44 South Frederick street, Baltimore, Md.



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1872.

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Ammoniated Bone Super-Phosphate,

Analysis.

Ammonia, - - - - - - - - - -	2.83
Soluble Phosphate of Lime, - - - - -	29.51
Bone Phosphate of Lime, - - - - -	10.67

Composed of the most concentrated materials, it is

Richer in Ammonia and Soluble Phosphates

THAN ANY OTHER FERTILIZER SOLD,

Except our "Excelsior," and is made with same care and supervision—uniform quality guaranteed. Fine and dry, in excellent order for drilling. Packed in bags.

PRICE $50 PER TON.

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GROUND BONE,

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IN BARRELS OR BAGS. FOR SALE WHOLESALE OR RETAIL.

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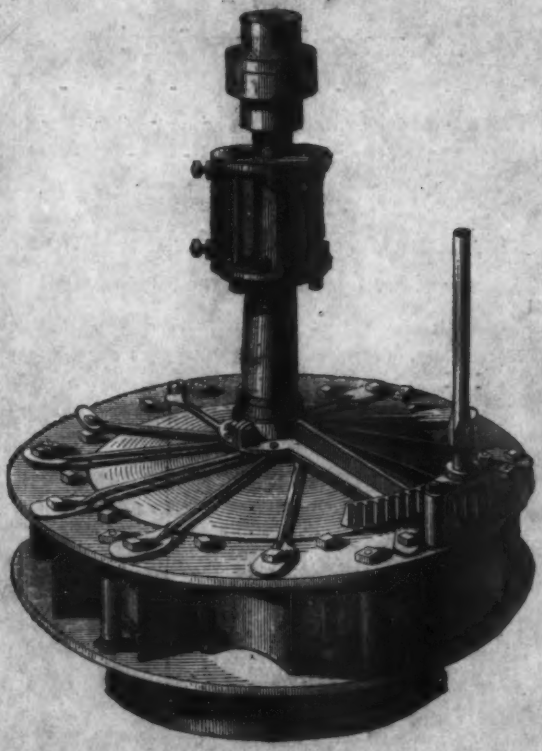
JAMES LEFFEL'S PATENT
AMERICAN DOUBLE TURBINE
WATER WHEEL,



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Respectfully, &c.,

(Signed,) J. W. STONEBRAKER.